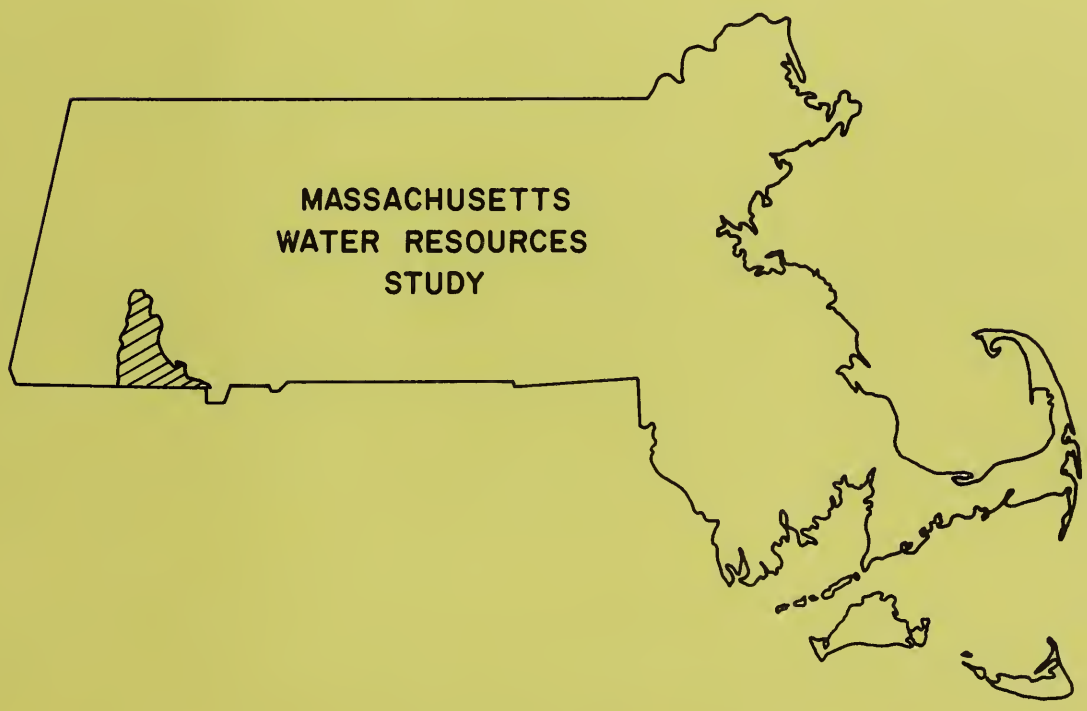
UNITED STATES DEPARTMENT of AGRICULTURE

INVENTORY
of
POTENTIAL and EXISTING
UPSTREAM RESERVOIR SITES

FARMINGTON STUDY AREA



U.S. DEPARTMENT of AGRICULTURE
Soil Conservation Service
Economic Research Service
Forest Service

In cooperation with the

MASSACHUSETTS WATER RESOURCES COMMISSION

MARCH 1976

FOREWORD

The United States Department of Agriculture, in cooperation with the Massachusetts Water Resources Commission, is participating in the Massachusetts Water Resources Study of the water and related land resources of the Commonwealth. One phase of the study is the inventorying of potential and existing upstream reservoir sites.

The Commonwealth of Massachusetts, through the Water Resources Commission, provides guidance and significant financial contribution toward this phase of the Massachusetts Water Resources Study. The Massachusetts Water Resources Commission, to fulfill its responsibilities under Chapter 21, Sections 8 through 15 of the Massachusetts General Laws, requires technical and engineering data and information on potential upstream reservoir sites. The Department of Agriculture is participating in this study under the provisions of Section 6, of the Watershed Protection and Flood Prevention Act (Public Law-566, 83rd Congress, as amended) which authorizes the Secretary of Agriculture to cooperate with other federal, state and local agencies, in surveys and investigations of the watersheds of rivers and other waterways as a basis for the development of coordinated programs.

This report, prepared by the Soil Conservation Service and submitted by the USDA Field Advisory Committee to the Water Resources Commission, identifies and inventories potential and existing upstream reservoir sites within the Farmington Study Area.

The Massachusetts Water Resources Commission will use this report, together with other reports and studies prepared by the United States Department of Agriculture and others, in the preparation of a comprehensive plan for the Commonwealth's water and land resources.

The information and data contained herein will also assist local, state and federal agencies in their specific planning activities for the coordinated and orderly conservation, development, utilization and management of the water and land resources to meet the rapidly expanding needs.

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Board of Supervisors

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Department of Civil Engineering
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Massachusetts Water Resources Commission

Massachusetts Department of Environmental Management

Soil Conservation Service personnel prepared this report. Ernest Richards was responsible for the development of the engineering phases of the report. Raymond Curran and Chester Konieczny collected and processed basic site data. Donald Mills reported on geological conditions. Patricia Cobb typed the final manuscript. James Wesoloski was responsible for editing and publication.

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INVENTORY OF

POTENTIAL AND EXISTING UPSTREAM RESERVOIR SITES

in the

FARMINGTON STUDY AREA

prepared by the

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

in cooperation with the

MASSACHUSETTS WATER RESOURCES COMMISSION

INTRODUCTION

This report presents data on 45 potential and 28 existing reservoirs in the Farmington Study Area in Berkshire and Hampden Counties, Massachusetts.

DESCRIPTION OF STUDY AREA

The Farmington Study Area is located in southwestern Massachusetts. The main streams in the study area include the Clam River, West Branch of the Farmington River, and the Hubbard River. The study area, which covers about 97,900 acres or 153 square miles, is divided into seven subwatersheds. All or portions of ten towns are located within the study area.

Many of the potential reservoirs could be developed as municipal water supplies, recreation lakes, fish and wildlife areas, or floodwater retarding structures. The inventory can be used by the state, municipalities, planning boards, conservation commissions, other units of government, and private individuals in determining the best use for the limited number of potential reservoir sites in the study area.

CRITERIA

Potential Reservoir Sites

The primary considerations used to identify potential reservoir sites were: suitable topography for a dam and reservoir, sufficient drainage area to maintain the proposed reservoir and a relatively undeveloped pool area.

The following criteria were used as a guide in site selection:

1. Drainage area -- larger than one-half square mile, but not greater than 50 square miles.

2. Ratio of drainage area to beneficial pool area -- not less than 10 to 1.

3. Minimum beneficial pool depth -- 7 feet at the dam.

4. Minimum beneficial pool area -- 10 acres.

5. Minimum beneficial pool capacity -- 100 acre-feet.

6. Maximum beneficial pool capacity -- storage volume equal to 25 inches of runoff from the drainage area.

7. Maximum height of dam -- 100 feet.

8. Pool area relatively undeveloped -- no housing developments, industrial areas, or major highways inundated.

Existing Reservoirs

Existing reservoirs were located using the U.S. Geological Survey (USGS) quadrangle sheets. Two criteria were used to determine sites to be included in this report:

1. Surface area -- at least 10 surface acres or a pond identified by name on the USGS topographic map.

2. Man-made dam -- The pool must be the result of dam construction. Natural ponds and beaver dams are excluded.

INVESTIGATIONS AND ANALYSES

Potential Reservoir Sites

Sites were located using the latest available USGS 7½ minute quadrangle sheets. Natural basins, or topography favorable for storage of water, and an undeveloped pool area were the primary considerations in the initial site selection. Watershed boundaries were delineated on the quadrangle sheets and the drainage area was determine for each site. Water storage areas and volumes available upstream of the site centerline were calculated. Data were also obtained to calculate the volume of earthfill required for the dam and any supplementary dikes that might be needed to maintain a reservoir.

At each site a field reconnaissance was made that included an inventory of land and facilities (man-made structures) that would be affected if a dam and reservoir were developed at the site. If it was determined that the reservoir would flood extensive man-made facilities, or a study of the elevation-area storage data showed that the site did not meet criteria for the study, the site was dropped from further consideration.

A surficial geologic investigation was made of each potential site to determine any obvious geologic conditions that might affect the water-holding capability or require extensive foundation preparation. A preliminary geological report was prepared which outlined the types of materials that might be expected at the site and their effect on construction costs and waterholding capabilities for the site. The report of geologic conditions was based on the geologist's interpretation following the surficial investigation of the site and surrounding area. No borings were made and subsurface conditions may vary from those indicated in this report.

Hydrologic and hydraulic data were calculated using methods developed by the Soil Conservation Service. Rainfall data were obtained from Technical Papers 40 and 49, U.S. Department of Commerce, Weather Bureau. Preliminary structure site analyses for several levels of development for each site were processed by computer, using a program which determines the most economical type of principal spillway; determines the runoff and peak flow for the 100-year frequency, 10-day duration, principal spillway design storm; routes the design storm to set the emergency spillway crest; performs other routings to determine the design high water and top of dam elevations; calculates embankment yardage and other construction quantities; determines the total estimated cost of the reservoir; and calculates "safe yield" for water supply purposes.

Existing Reservoirs

An inventory was made of 28 existing reservoirs that cover at least ten acres or are identified by name on the USGS quadrangle sheet, and are formed by a man-made dam. The reservoirs were located using the USGS quadrangle sheets. An engineer made a field reconnaissance to determine the physical condition of each structure and to assess the potential for expansion of the reservoir. While at the site, photographs were taken. Selected photographs are included in this report. Ownership and use information for the reservoirs was obtained from records of the Massachusetts Department of Public Works, the Massachusetts Water Resources Commission and from local interviews.

COSTS

Preliminary cost estimates for potential reservoir sites were based on construction costs and land values as of 1974. The cost estimates include:

(1) construction costs; (2) contingencies; (3) engineering and administrative services necessary for surveys, geology, final design, and construction inspection; (4) cost for land required for the reservoir and construction of the dam and spillway; and (5) costs associated with purchase or relocation of man-made facilities affected by the constructed reservoir.

Construction costs were based on recent dam construction contract costs in Massachusetts. A factor for contingencies, equal to 15% to 35% of the construction cost, was included to account for items that were not considered at this intensity of study. Engineering and administrative services ranged from 20% to 40% of the construction cost.

Costs for land acquisition were based on an evaluation of current real estate transactions and market conditions. Land with potential for development was valued at from $1,000 to $10,000 per acre; land with little development potential was valued at from $200 to $500 per acre. Land values also varied from site to site based on the proximity to developed areas and highways, development taking place in the area, and suitability for development. Land needed for the dam, spillway and design high water pool was included in the land acquisition cost.

Cost estimates are presented on the basis of a cost per acre-foot of storage and cost per surface-acre to provide a comparison between different sites and different levels of development at the same site. Costs are based on preliminary estimates; firm cost estimates for any site can be determined only after completion of detailed geologic and engineering investigations, final structural designs, and land appraisals.

No cost estimates are included for existing reservoirs.

REPORT FORMAT

The report is divided into sections based on the seven subwatersheds in the Farmington Study Area. The location map, placed after the Table of Contents, outlines the area covered by each subwatershed. To aid local residents in determining which sites are located in their city or town, the Municipal Index of Sites lists the site identification numbers for potential and existing reservoir sites within each municipality and the page number of this report on which data are recorded.

Each subwatershed section provides Site Data for the potential and existing reservoir sites, located within the subwatershed, which are included in this report.

Potential Reservoir Sites

Data for potential reservoirs are presented in the following format:

Location: includes a narrative description of the location of the site by reference to nearby roads, railroads, or other physical landmarks. In addition, the latitude, longitude,

and USGS quadrangle sheet name are provided for more accurate location.

Facilities Affected: describes any man-made facilities that would be flooded by a reservoir at the potential site. The elevation of existing facilities was estimated during the engineer's field reconnaissance with the aid of the USGS quadrangle sheets.

Geologic Conditions: provides a summary of the preliminary geologic report. The material in the abutments (the valley sides) and the foundation (the valley floor) is described. An estimate is made of the depth to bedrock and the probable type of rock. The availability of fill material which could be used in the dam construction is noted.

Possible leakage problems are indicated and the water-holding capability of the site is subjectively described as "good," "fair," or "poor." The waterholding capability statement is based on the geologist's interpretation of the surficial conditions observed during the field reconnaissance.

Engineering Notes: provides information which should be helpful in preliminary design of a dam. One of the abutments is recommended as the location for an excavated emergency spillway. If an excavated emergency spillway is unable to carry the required flows at safe velocity, the need for a concrete emergency spillway is noted.

Public Ownership: indicates that some portion of a reservoir site is located on land owned by a governmental or quasi-public unit.

Sites which meet study criteria have been analyzed using a computer program which develops preliminary structure site analyses for several levels of beneficial pool. Results of the computer program are presented in the tables entitled, "Summary Data for Potential Upstream Reservoir Sites" at the end of each subwatershed section. Two information lines contain data on site drainage area, USGS quadrangle name on which the site is located, latitude and longitude of the site, site rating, stream water quality, and principal spillway design storm runoff and peak flow. The site rating is based on geologic conditions and the expected waterholding capability. Sites are given one of the following ratings:

1. Suited for deep permanent storage (over 10 feet in depth).
2. Best suited for shallow water storage (3 to 5 feet maximum depth).
3. Best suited for temporary storage (e.g., floodwater and sediment storage).

In order to furnish the most data for potential reservoir sites, each site was considered to be suitable for deep permanent storage (rating "1") for purposes of design and analyses. The rating for any site could change based on detailed geologic investigations.

Stream water quality ratings are based on classifications assigned by the Division of Water Pollution Control, Massachusetts Water Resources Commission, and published in "Water Quality Standards," June 1967, and are as follows:

"Class A -- Waters designated for use as public water supply in accordance with Chapter 111 of the General Laws. Character uniformly excellent.

Class B -- Suitable for bathing and recreational purpose including water contact sports. Acceptable for public water supply with appropriate treatment.
Suitable for agricultural, and certain industrial cooling and process uses; excellent fish and wildlife habitat; excellent aesthetic value.

Class C -- Suitable for recreational boating; habitat for wildlife and common food and game fishes indigenous to the region; certain industrial cooling and process uses; under some conditions acceptable for public water supply with appropriate treatment. Suitable for irrigation of crops used for consumption after cooking. Good aesthetic value.

Class D -- Suitable for aesthetic enjoyment, power, navigation, and certain industrial cooling and process uses. Class "D" waters will be assigned only where a higher water use class cannot be attained after all appropriate waste treatment methods are utilized."

The Summary Data for Potential Upstream Reservoir Sites tables also contain data for as many as six possible levels of development at each site. Elevations of the beneficial pool, emergency spillway crest, design high water, and top of dam are shown along with pertinent storage volumes, surface areas and depths. Total cost expressed in dollars per acre-foot of storage and dollars per surface-acre are provided to aid in comparison of levels of development. The emergency spillway type which was used in the preliminary design is indicated by an emergency spillway type code explained in the table notes.

These tables are photo-reductions of the computer output sheets. Elevations are shown to the tenth of a foot and costs to the nearest $10, but are not to be considered that accurate because of the limited investigations made with preliminary data. All the Summary Data Tables are based on preliminary reconnaissance-type investigations and computer-produced structure designs. Additional detailed engineering, geologic and design investigations must be made before final site selection, land acquisition and final design would be practical.

Estimated safe yields for each potential reservoir are also shown on the tables and were based on information extrapolated from data developed by the late Professor G. R. Higgins, Civil Engineering Department, University of Massachusetts. These estimated safe yields are based on a 95% chance, or the minimum yield that could be expected 19 years out of 20 -- taking into consideration reservoir storage-volume and expected runoff. These data do not consider evaporation, seepage, or prior upstream usage losses.

The Committee on Rainfall and Yield of Drainage Areas of the New England Water Works Association has recommended a figure of 600,000 gallons per day per square mile as a maximum economically feasible safe yield. Data for some of the potential sites in this report show a safe yield above 600,000 gallons per square mile per day. These higher values are useful to define the upper portion of a discharge-storage curve for preliminary analysis. For detailed evaluation of a potential site or water supply purposes, the recommendation of the New England Water Works Association should be considered.

Existing Reservoirs

Data for existing reservoirs are presented in the following format:

Location: of the dam is indicated by reference to nearby roads, railroads, or other physical landmarks. The appropriate USGS quadrangle sheet, latitude, and longitude are provided for more accurate location.

Physical data (surface area, height of dam, and drainage area) were estimated from the quadrangle sheet and by field reconnaissance.

Potential for Expansion: potential is estimated and any major man-made facilities which would be affected by an enlarged reservoir are noted. Some of the site narratives contain the phrase, "Significant expansion does not appear practical." The phrase is used to indicate that although the pool level might be raised by a few feet or the pool area increased by a few acres, any greater expansion does not appear feasible due to topography or facilities which would be flooded.

In some instances, the drainage area of the reservoir does not meet the criteria requiring a 10 to 1 drainage area to pool area ratio, below which there may be relatively high evaporation losses. An increase in reservoir surface area might increase evaporation losses to a point where the reservoir could not be maintained during the summer months. These situations are indicated by the statement, "The small drainage area limits expansion potential."

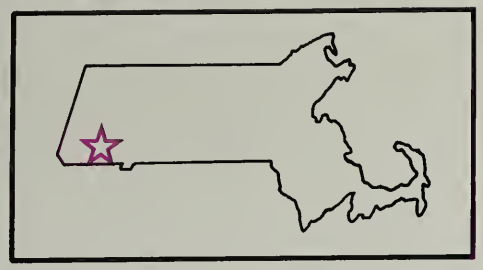
Remarks: includes a description of the dam and spillway system. Construction materials, spillway type and size, and condition of the structure are noted.

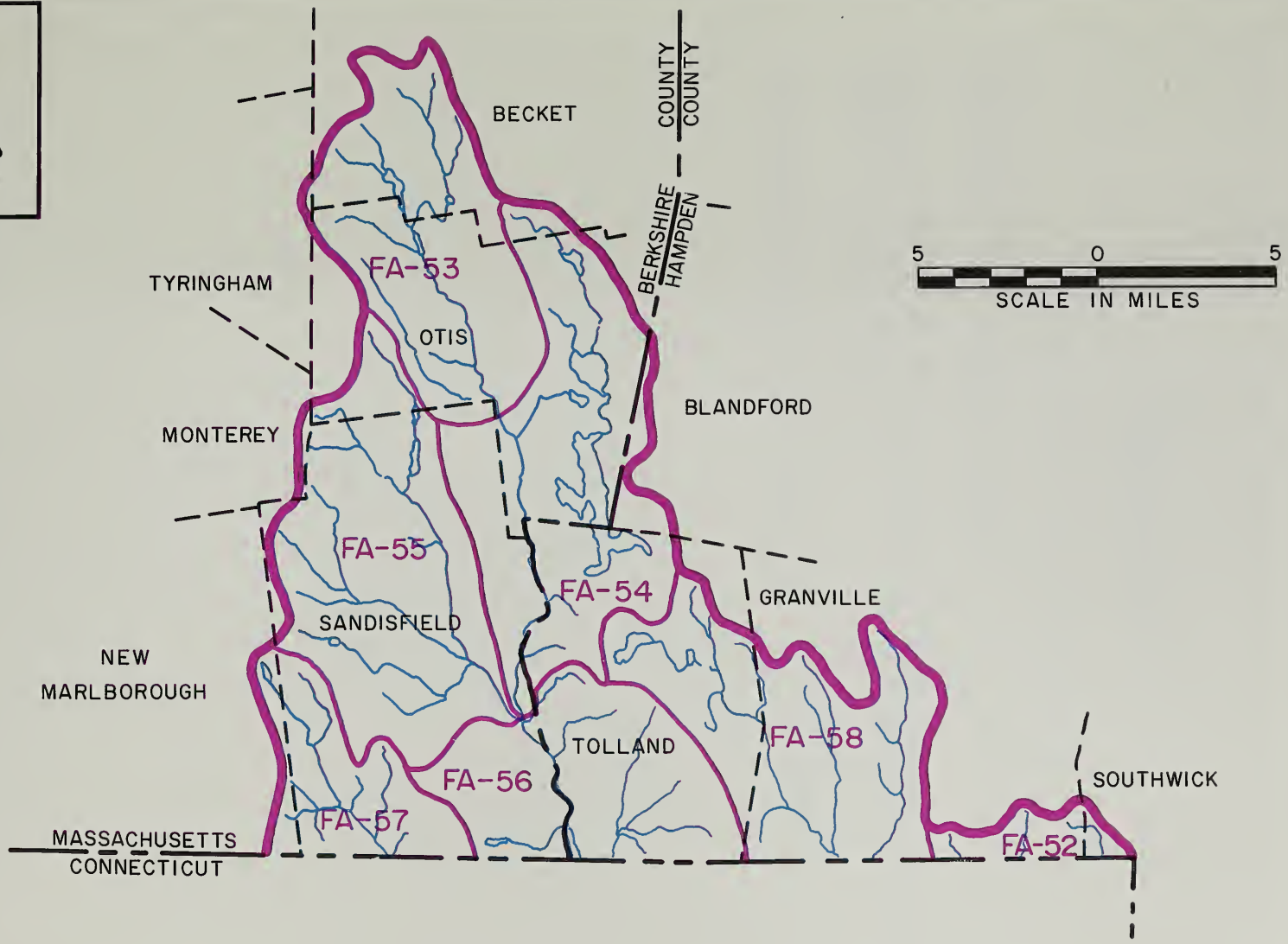
Ownership and Use: is indicated, if available. In some cases, the pool is not maintained for a specific purpose, but may have incidental use for recreation. This is probably the situation for existing reservoirs which are indicated in the Massachusetts Department of Public Works records as being used to "store water." Typical of these sites are old mill dams which are no longer utilized for mill power.

Selected photographs of existing dams, spillways, and reservoirs are included in the report.

MAPS

Individual subwatershed maps appearing at the end of each section indicate the location of the potential and existing reservoir sites in that subwatershed. The maps are reductions of mosaics prepared from 7½ minute USGS quadrangle sheets(1" = 2000' scale). The quadrangle sheets used and publication dates are listed on the maps. Potential sites are indicated with a red rectangle surrounding the site number. Existing reservoirs are identified by a red circle surrounding the site number.





LEGEND

STUDY AREA BOUNDARY

LOCATION OF SUB-WATERSHEDS

FARMINGTON STUDY AREA

MASSACHUSETTS

USDA-SCS-HYATTSVILLE, MD. 1974

FARMINGTON STUDY AREA
SITE DATA FOR

Subwatershed FA-52, Salmon Brook

The Salmon Brook subwatershed covers about 2,900 acres in Granville and Southwick, both in Hampden County.

The subwatershed includes Bradley Brook, Palmer Brook and the East Branch of Salmon Brook which originate in southern Massachusetts and flow south into Connecticut.

Three potential reservoir sites were studied. There were no existing reservoirs which met study criteria.

POTENTIAL SITE FA-5201

Location: On the East Branch of Salmon Brook about 250 feet upstream from the Massachusetts-Connecticut state line in Granville, Mass.

Southwick, Mass. USGS quadrangle

Latitude: 42°02'17" Longitude: 72°51'41"

Facilities Affected: None below elevation 590.

Geologic Conditions: Both abutments and the foundation are poorly graded sand and gravel, cobbles, and boulders (englacial drift and ice-contact deposits). Depth to granite gneiss or schist bedrock in the foundation is estimated to be from 20 to 25 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE FA-5202

Location: On Bradley Brook about 5850 feet upstream from the Massachusetts-Connecticut state line in Southwick, Mass.

Southwick, Mass. USGS quadrangle

Latitude: 42°00'47" Longitude: 72°48'45"

Facilities Affected: None below elevation 380.

Geologic Conditions: Both abutments are silty sand with gravel, cobbles, and boulders (glacial till), with a small terrace at the toe of the right abutment which is probably poorly-graded sand and gravel with boulders (ice-contact deposits). Depth to conglomerate and shale bedrock in the foundation is estimated to be from 15 to 20 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location.

****

POTENTIAL SITE FA-5203

Location: On Palmer Brook about 350 feet east of Route 202 and about 700 feet southeast of the Route 202-Nicholson Hill Road intersection in Southwick, Mass.

Southwick, Mass. USGS quadrangle

Latitude: 42°00'35" Longitude: 72°47'40"

Facilities Affected:

Facility	Elevation
Dairy barn	242
Barn and silo	243
Route 10 and utilities	246
Barn and house	248
Barn and silo	250

Geologic Conditions: Both abutments are silty sand and poorly graded sand and gravel with cobbles and boulders (englacial drift). Depth to triassic sandstone and shale bedrock in the foundation is estimated to be from 20 to 25 feet. Water-holding capabilities appear to be poor. Leakage can be expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: Preliminary designs indicate that a concrete emergency spillway system may be required at this site.

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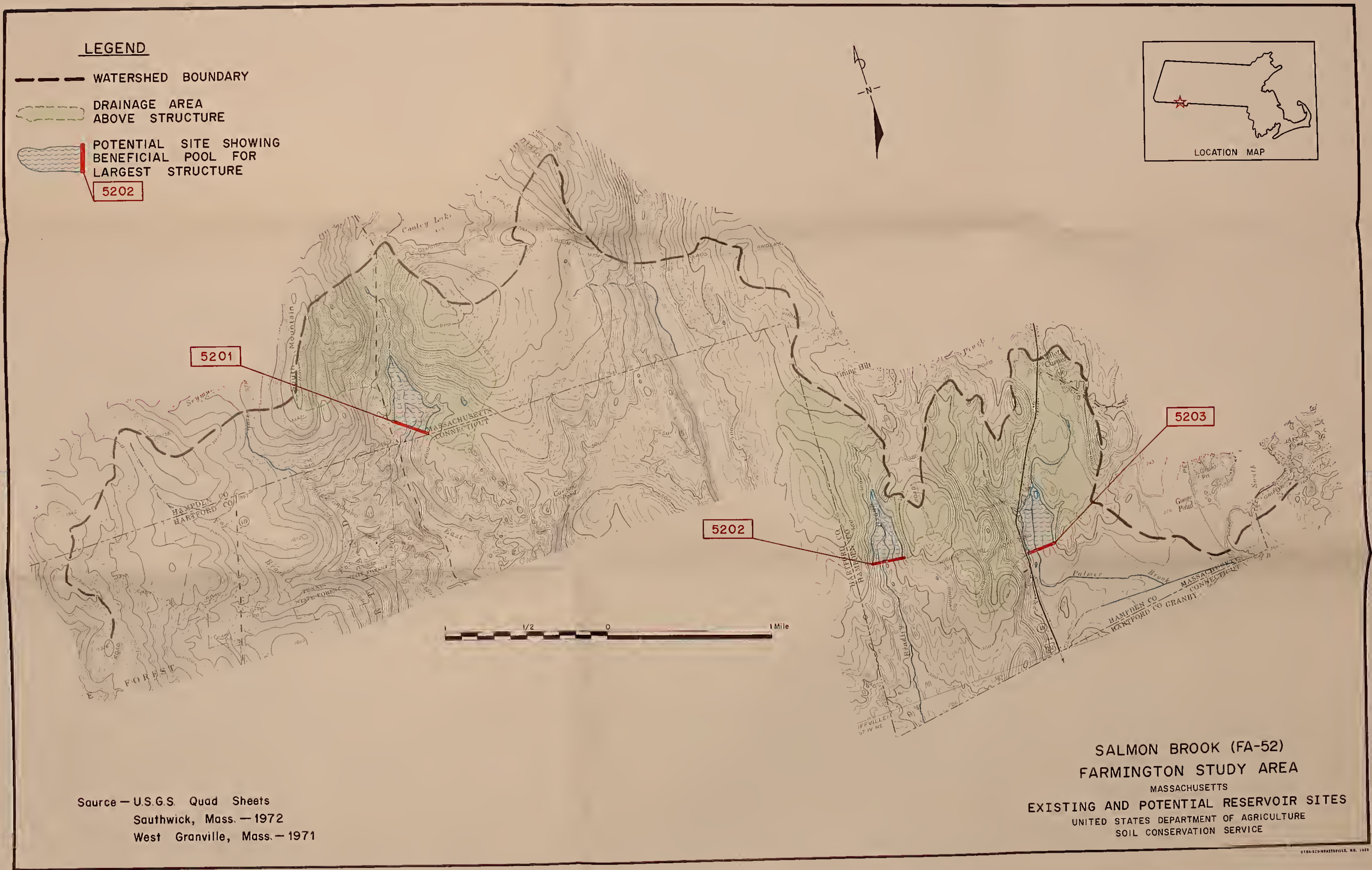
SUMMARY CATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-FARMINGTON RIVER SUBWATERSHED SALMON RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY					DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	STORAGE IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	TYPE	STORAGE AT CREST AC FT	STORAGE AT CREST IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-FA-5201 DA= 0.74 SQ MI = 474 AC USGS QUAD-SOUTHWICK LATITUDE 42-02-17 LONGITUDE 72-51-41																	
SITE RATING (3) STREAM WATER QUALITY (A) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 7.90 IN, PEAK FLOW = 218 CFS																	
540.3	0	0.0		2		5.3	557.2	E	199	5.0	1180	559.5	20	563.2	28	32	*****
551.5	100	2.5	3130	15	21220	16.5	562.0	E	298	7.6	1050	564.3	26	567.5	33	46	0.20
560.0	248	6.3	1560	20	19050	25.0	566.5	E	415	10.5	930	568.9	32	572.0	37	66	0.36
570.7	543	13.7	1050	35	16430	35.7	575.2	E	714	18.1	800	577.5	41	580.5	46	119	0.54
578.5	839	21.2	840	42	16950	43.5	581.0	E	952	24.1	740	583.4	46	586.4	51	166	0.65
581.9	987	25.0	800	45	17640	46.9	584.4	E	1107	28.0	710	586.7	49	589.7	55	198	0.68
SITE-FA-5202 DA= 0.57 SQ MI = 365 AC USGS QUAD-SOUTHWICK LATITUDE 42-00-47 LONGITUDE 72-48-45																	
SITE RATING (1) STREAM WATER QUALITY (A) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 7.90 IN, PEAK FLOW = 147 CFS																	
342.7	0	0.0		3		2.8	355.7	E	126	4.1	1720	358.0	19	361.0	21	29	*****
354.2	100	3.3	2940	15	19810	14.2	358.7	E	183	6.0	1610	361.2	23	364.2	24	40	0.18
359.6	195	6.4	1950	21	18360	19.6	364.1	E	305	10.0	1250	366.2	29	369.2	29	64	0.28
367.2	384	12.6	1290	30	16760	27.2	369.7	E	466	15.2	1070	372.1	38	375.1	35	98	0.40
372.5	565	18.6	1080	39	15780	32.5	375.0	E	673	22.1	910	377.1	49	380.1	40	137	0.48
SITE-FA-5203 DA= 1.15 SQ MI = 736 AC USGS QUAD-SOUTHWICK LATITUDE 42-00-35 LONGITUDE 72-47-40																	
SITE RATING (3) STREAM WATER QUALITY (A) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 7.90 IN, PEAK FLOW = 339 CFS																	
234.7	0	0.0		6		1.7	247.2	E	337	5.5	1000	249.6	50	252.7	20	38	*****
240.7	100	1.6	4010	27	14980	7.8	240.7	T	109	1.7	3680	247.6	45	251.2	18	32	0.24
242.7	160	2.5	2750	32	13680	9.8	242.7	T	169	2.8	2600	249.6	50	253.8	21	43	0.32
244.5	220	3.5	2050	37	12270	11.5	244.5	T	229	3.6	1970	249.3	50	253.5	21	42	0.40
247.5	340	5.5	1630	45	12440	14.5	247.5	T	349	5.6	1590	250.0	51	253.0	20	39	0.50
247.5	342	5.6	1660	45	12710	14.5	247.5	T	351	5.6	1620	250.0	51	253.0	20	39	0.50

NOTES - (1) COSTS ARE BASED ON 1974 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **



SALMON BROOK (FA-52)
FARMINGTON STUDY AREA
MASSACHUSETTS
EXISTING AND POTENTIAL RESERVOIR SITES
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Saurce — U.S.G.S. Quad Sheets
Sauthwick, Mass. — 1972
West Granville, Mass. — 1971

FARMINGTON STUDY AREA
SITE DATA FOR

Subwatershed FA-53, Upper West Branch

The upper portion of the West Branch subwatershed covers about 17,200 acres in Becket, Otis, Sandisfield, and Tyringham; all in Berkshire County.

This subwatershed includes the watershed of the West Branch of the Farmington River upstream from the confluence with Wheeler Brook in Otis.

Five potential reservoir sites and five existing reservoirs were studied.

POTENTIAL SITE FA-5303

Location:	On an unnamed tributary to Shales Brook about 1150 feet upstream from Tyringham Road in Becket, Mass.
	East Lee, Mass. USGS quadrangle
	Latitude: 42°15'23" Longitude: 73°08'45"
Facilities Affected:	None below elevation 1645.
Geologic Conditions:	Both abutments are silty sand with gravel, cobbles and boulders (glacial till). Depth to gneiss bedrock in the foundation is estimated to be from 10 to 15 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.
Engineering Notes:	The left abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE FA-5306

Location:	On Benton Brook about 1300 feet upstream from West Center Road in Otis, Mass.
	Monterey, Mass. USGS quadrangle
	Latitude: 42°12'55" Longitude: 73°07'45"
Facilities Affected:	None below elevation 1570.
Geologic Conditions:	Both abutments are silty sand with gravel, cobbles and boulders (glacial till). Depth to gneiss bedrock in the foundation is estimated to be from 10 to 15 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.
Engineering Notes:	The left abutment is recommended for the excavated emergency spillway location.

****

POTENTIAL SITE FA-5307

Location:	On Dimmock Brook about 250 feet upstream from Becket Road in Otis, Mass.
	Otis, Mass. USGS quadrangle
	Latitude: 42°12'36" Longitude: 73°01'18"
Facilities Affected:	None below elevation 1540.
Geologic Conditions:	Both abutments are silty sand with gravel, cobbles and boulders (glacial till). Depth to bedrock in the foundation is estimated to be from 10 to 15 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.
Engineering Notes:	The left abutment is recommended for the excavated emergency spillway location. If the site is developed above elevation 1515, an auxiliary dike will be required on the south end of the reservoir.
Public Ownership:	About 20 acres of the pool area lie within the Otis State Forest.

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POTENTIAL SITE FA-5308

Location: On Dimmock Brook about 200 feet upstream from Gibbs Road in Otis, Mass.

Otis, Mass. USGS quadrangle

Latitude: 42°11'43" Longitude: 73°04'24"

Facilities Affected:

Facility	Elevation
Route 23 and utilities	1415
Cabin	1415
Gibbs Road and utilitiies	1425
House	1425
2 Houses and barn	1430

Geologic Conditions: Both abutments are silty sand with gravel, cobbles and boulders (glacial till). Depth to gneiss bedrock in the foundation is estimated to be from 10 to 15 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE FA-5309

Location: On Benton Brook about 4700 feet downstream from State Route 23 in Otis, Mass.

Otis, Mass. USGS quadrangle

Latitude: 42°11'24" Longitude: 73°06'22"

Facilities Affected:

Facility	Elevation
Route 23 and utilities	1415
Boathouse and shed	1420
House trailer	1425
House and 3 barns	1430
Barn	1435

Geologic Conditions: The left abutment is silty sand with gravel, cobbles and boulders (glacial till). The right abutment is poorly graded sand and gravel with cobbles and boulders (englacial drift or ice-contact deposits). Depth to bedrock in the foundation is estimated to be from 15 to 20 feet. Waterholding capabilities appear to be poor. Leakage is expected through the right abutment and possibly the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

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SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-FARMINGTON RIVER SUBWATERSHED UPPER WEST BROOK

BENEFICIAL POOL						DEPTH AT DAM	EMERGENCY SPILLWAY				DESIGN HIGH WATER	DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	STORAGE IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)		CREST ELEV +* TYPE (MSL)	STORAGE AT CREST AC FT	STORAGE AT CREST IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-FA-5303 DA= 0.85 SQ MI = 544 AC USGS QUAD-EAST LEE LATITUDE 42-15-23 LONGITUDE 73-08-45																
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.10 IN, PEAK FLOW = 257 CFS																
1623.6	0	0.0		6		1.7	* 1633.0 E	188	4.1	680	* 1633.0	31	* 1636.0	14	5	* *****
1630.1	100	2.2	1710	26	6600	8.1	* 1632.6 E	178	3.9	960	* 1632.6	30	* 1635.6	14	5	* 0.21
1633.5	197	4.3	1030	32	6390	11.5	* 1636.0 E	289	6.4	700	* 1636.0	36	* 1639.0	17	7	* 0.33
1638.8	391	8.6	680	41	6480	16.7	* 1641.3 E	506	11.2	530	* 1641.3	46	* 1644.3	22	14	* 0.50
1642.5	556	12.3	570	48	6570	20.5	* 1645.0 E	689	15.2	460	* 1645.0	53	* 1648.0	26	20	* 0.59
SITE-FA-5306 DA= 1.57 SQ MI = 1005 AC USGS QUAD-MONTEREY LATITUDE 42-12-55 LONGITUDE 73-07-45																
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.10 IN, PEAK FLOW = 474 CFS																
1524.6	0	0.0		6		3.6	* 1543.4 E	561	6.6	660	* 1545.6	66	* 1549.8	29	68	* *****
1532.4	100	1.2	4490	22	20200	11.3	* 1544.9 E	655	7.8	690	* 1547.4	72	* 1552.0	31	81	* 0.26
1541.3	432	5.1	1390	53	11380	20.2	* 1549.8 E	1004	12.0	600	* 1551.9	83	* 1556.4	35	114	* 0.67
1551.1	1097	13.1	680	82	9160	30.0	* 1555.6 E	1496	17.9	500	* 1558.0	95	* 1561.0	40	154	* 1.13
1558.6	1761	21.0	580	96	10610	37.5	* 1563.1 E	2225	26.5	460	* 1565.4	110	* 1569.3	48	249	* 1.37
1561.9	2093	25.0	570	102	11580	40.9	* 1561.9 T	2106	25.2	560	* 1566.5	112	* 1569.5	49	251	* 1.43
SITE-FA-5307 DA= 1.83 SQ MI = 1171 AC USGS QUAD-OTIS LATITUDE 42-12-36 LONGITUDE 73-04-18																
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.10 IN, PEAK FLOW = 454 CFS																
1500.1	0	0.0		3		10.1	* 1518.5 E	616	6.3	550	* 1521.0	65	* 1524.6	35	52	* *****
1506.8	100	1.0	4020	26	15510	16.7	* 1506.8 T	115	1.2	3510	* 1515.6	51	* 1520.6	31	31	* 0.27
1515.1	425	4.4	1400	50	11950	25.2	* 1523.6 E	964	9.8	620	* 1526.1	86	* 1529.3	39	100	* 0.71
1525.3	1074	11.0	1070	83	13990	35.3	* 1531.8 E	1709	17.5	680	* 1533.8	113	* 1538.0	48	252	* 1.20
1532.1	1724	17.7	890	108	14230	42.0	* 1532.1 T	1738	17.7	880	* 1536.6	122	* 1539.6	50	294	* 1.50
1532.5	1768	18.1	890	109	14380	42.5	* 1532.5 T	1783	18.2	880	* 1537.0	124	* 1540.0	50	305	* 1.50

NOTES - (1) COSTS ARE BASED ON 1974 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-FARMINGTON RIVER SUBWATERSHED UPPER WEST BROOK

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	TYPE	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-FA-5308 DA= 3.91 SQ MI = 2502 AC USGS QUAD-OTIS LATITUDE 42-11-43 LONGITUDE 73-04-24																	
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.10 IN, PEAK FLOW = 886 CFS																	
1394.6	0	0.0		20		2.7	1413.6	E	1581	7.6	280	1415.6	157	1422.1	30	37	*****
1397.6	100	0.5	5610	44	12720	5.6	1397.6	T	131	0.6	4270	1410.6	118	1417.6	26	22	0.33
1408.6	952	4.6	660	107	5900	16.7	1419.1	E	2500	12.0	250	1421.1	196	1427.1	35	60	1.56
1420.3	2657	12.7	370	192	5120	28.2	1426.8	E	4032	19.2	240	1429.0	231	1434.4	42	115	2.76
1432.0	5213	25.0	290	244	6290	40.0	1432.0	T	5245	25.2	290	1436.9	266	1439.9	48	175	3.57
SITE-FA-5309 DA= 2.68 SQ MI = 1715 AC USGS QUAD-OTIS LATITUDE 42-11-24 LONGITUDE 73-06-22																	
SITE RATING (3) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.10 IN, PEAK FLOW = 679 CFS																	
1408.1	0	0.0		5		8.1	1423.6	E	1077	7.5	360	1425.1	136	1430.6	31	41	*****
1413.4	100	0.7	4750	43	10960	13.3	1423.9	E	1121	7.8	420	1425.8	139	1431.0	31	43	0.30
1419.4	553	3.9	1110	108	5690	19.4	1425.9	E	1386	9.7	440	1428.3	149	1432.1	32	47	0.97
1426.5	1458	10.2	600	142	6200	26.5	1433.0	E	2494	17.4	350	1434.5	179	1439.3	39	89	1.70
1432.4	2364	16.5	480	168	6810	32.4	1432.4	T	2385	16.7	480	1437.1	192	1440.1	40	100	2.14
1432.5	2382	16.7	480	169	6820	32.5	1432.5	T	2404	16.7	480	1437.3	192	1440.3	40	102	2.15

NOTES - (1) COSTS ARE BASED ON 1974 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

EXISTING SITE FA-5310 (Shaw Pond)

Location: On the West Branch of the Farmington River about 2100 feet upstream from State Route 8 in Otis, Massachusetts.

Otis, Mass. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1345	80	7	3000	4.68

Potential for Expansion: Limited. The pond is surrounded by many houses, Route 8, Route 20, and the Massachusetts Turnpike.

Remarks: The dam is a rock structure about 50 feet long. The outlet is a combination wooden weir and chute spillway with the weir having a maximum head of 1 foot and the chute length about 15 feet. A gated outlet is located beneath the weir. The emergency spillway, located on the left abutment is a rock weir about 5 feet wide with provision for 4 feet of stoplogs.

Ownership and Use: Water levels are controlled by Camp Lenox. The Public Access Board owns a boat ramp and parking area at this pond. The pond is used for recreation.

****

EXISTING SITE FA-5311 (Ward Pond)

Location: On Palmer Brook about 250 feet upstream from the Massachusetts Turnpike (Interstate Route 90) in Becket, Massachusetts.

Otis, Mass. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1545	28	7	4000	6.25

Potential for Expansion: Limited. A development at the upper end of the pond would be affected.

Remarks: The dam is formed by an old railroad embankment. Both upstream and downstream slopes are wooded. The spillway is a concrete box culvert.

Ownership and Use: The pond is owned by the Robinhood Development Corp. and is used for recreation.

****

EXISTING SITE FA-5312 (Hayden Pond)

Location: On the West Branch of the Farmington River about 50 feet upstream from Ed Jones Road in Otis, Massachusetts

Otis, Mass. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1318	38	12	9250	14.45

Potential for Expansion: Topography limits any significant increase in surface area.

Remarks: The dam is an earthfill structure about 200 feet long. The principal spillway, located near the right abutment, is a 150-foot long rock weir. There is also a gated outlet located on the left side of the dam. The dam is in deteriorating condition.

Ownership and Use: The pond is owned by the town of Otis and is used for recreation.

****

EXISTING SITE FA-5313 (Longbow Lake)

Location: On an unnamed tributary to Palmer Brook about 2000 feet west of the intersection of Jacobs Ladder Road and Johnson Road in Becket, Massachusetts.

Becket, Mass. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1648	95	4	200	0.31

Potential for Expansion: Limited. A large development surrounds the lake.

Remarks: The dam is part of the Shuttle Cock Drive embankment and is about 300 feet long. The spillway is a 6-foot wide concrete weir with provisions for 4 feet of stoplogs.

Ownership and Use: The lake is owned by the Robinhood Development Co. and is used for recreation.

****

EXISTING SITE FA-5314 (Palmer Brook Pond)

Location: On Palmer Brook about 1800 feet upstream from the confluence with Tyne Brook in Becket, Massachusetts.

Becket, Mass. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1712	134	25	1000	1.56

Potential for Expansion: Limited. The pool is already large in relation to the size of the drainage area.

Remarks: The dam is an earthfill structure with a concrete principal spillway and a vegetated emergency spillway.

Ownership and Use: The pond is owned by the Palmer Brook Corporstion and is used for recreation.

****

EXISTING SITE FA-5310
SHAW POND

EXISTING SITE FA-5312
HAYDEN POND

EXISTING SITE FA-5311
WARD POND

EXISTING SITE FA-5313
LONGBOW LAKE

EXISTING RESERVOIRS
SUBWATERSHED FA-53
UPPER WEST BRANCH

LEGEND

WATERSHED BOUNDARY

DRAINAGE AREA ABOVE STRUCTURE

POTENTIAL SITE SHOWING BENEFICIAL POOL FOR LARGEST STRUCTURE

5303

EXISTING POND OR RESERVOIR

5310

5313

5314

5303

5310

5312

5306

5311

5307

5308

5309

1/2 0 1 Mile

UPPER WEST BRANCH (FA-53)
FARMINGTON STUDY AREA
MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Source — U.S.G.S. Quad Sheets
Becket, Mass. — 1958
East Lee, Mass. — 1958
Monterey, Mass. — 1958
Otis, Mass. — 1958

FARMINGTON STUDY AREA
SITE DATA FOR

Subwatershed FA-54, West Branch

This portion of the West Branch subwatershed covers about 20,400 acres in Becket, Otis, and Sandisfield in Berkshire County; and Blandford and Tolland in Hampden County.

The subwatershed includes the drainage area of the West Branch of the Farmington from the confluence with Wheeler Brook in Otis, downstream to the confluence with the Clam River in Sandisfield.

Two potential reservoir sites and five existing reservoirs were studied.

POTENTIAL SITE FA-5401

Location: On an unnamed brook just north of the Massachusetts Turnpike in Becket, Mass.

Otis, Mass. USGS quadrangle

Latitude: 42°14'40" Longitude: 73°04'37"

Facilities Affected: None below elevation 1720.

Geologic Conditions: Both abutments are poorly graded sand and gravel with cobbles and boulders (englacial drift). There are extensive landfill and trash deposits on the right abutment. Depth to gneiss bedrock in the foundation is estimated to be from 20 to 25 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE FA-5403

Location:	On Wheeler Brook about 3800 feet upstream from its confluence with the Farmington River in Otis, Mass.
	Otis, Mass. USGS quadrangle
	Latitude: 42°10'46" Longitude: 73°04'01"
Facilities Affected:	None below elevation 1400.
Geologic Conditions:	Both abutments are silty sand with gravel, cobbles, and boulders (glacial till). Depth to bedrock in the foundation is estimated to be from 10 to 15 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.
Engineering Notes:	The left abutment is recommended for the excavated emergency spillway location. If the site is developed above elevation 1375, an auxiliary dike will be required to the west of the reservoir.
Public Ownership:	Nearly all of the dam and reservoir area is in the Otis State Forest.

****

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-FARMINGTON RIVER — SUBWATERSHED WEST BROOK

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER	DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	STORAGE IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	STORAGE AT CREST AC FT	STORAGE AT CREST IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-FA-5401 DA= 0.53 SQ MI = 344 AC USGS QUAD-OTIS LATITUDE 42-14-40 LONGITUDE 73-04-37																
SITE RATING (3) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.10 IN, PEAK FLOW = 154 CFS																
1707.0	0	0.0		3		2.0	1714.3 E	119	4.1	1290	1716.1	53	1719.1	14	15	*****
1713.8	100	3.5	2540	36	7160	8.8	1716.3 E	216	7.5	1180	1718.1	66	1721.1	16	20	0.18
1715.3	158	5.5	1820	46	6300	10.3	1717.8 E	298	10.3	970	1719.1	74	1722.1	17	22	0.24
1716.5	217	7.6	1540	54	6140	11.5	1716.5 T	221	7.6	1510	1719.3	76	1722.3	17	23	0.29
1717.5	275	9.6	1330	62	5960	12.5	1717.5 T	280	9.8	1310	1720.0	80	1723.0	18	25	0.33
1717.5	277	9.6	1330	62	5960	12.5	1717.5 T	281	9.8	1310	1720.0	80	1723.0	18	25	0.33
SITE-FA-5403 DA= 1.41 SQ MI = 902 AC USGS QUAD-OTIS LATITUDE 42-10-46 LONGITUDE 73-04-01																
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.10 IN, PEAK FLOW = 426 CFS																
1356.3	0	0.0		3		6.3	1375.1 E	502	6.6	590	1377.5	57	1381.6	32	46	*****
1365.4	100	1.2	3480	25	14040	15.3	1375.9 E	542	7.1	640	1378.3	59	1381.9	32	47	0.25
1373.1	397	5.3	1210	48	9970	23.2	1381.6 E	892	11.8	540	1384.0	69	1388.5	39	78	0.61
1383.4	990	13.2	670	68	9780	33.4	1389.9 E	1481	19.7	450	1391.9	84	1396.1	46	127	1.00
1391.1	1583	21.1	580	82	11120	41.2	1391.1 T	1595	21.2	570	1396.0	92	1399.0	49	151	1.23
1392.5	1690	22.5	560	85	11230	42.5	1392.5 T	1701	22.6	560	1397.1	94	1400.1	50	164	1.25

NOTES - (1) COSTS ARE BASED ON 1974 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

EXISTING SITE FA-5410 (White Lily Pond)

Location: On an unnamed tributary to Otis Reservoir about 3000 feet south of the Algerie Road-Massachusetts Turnpike overpass in Otis, Massachusetts.

Otis, Mass. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1526	28	10	350	0.55

Potential for Expansion: Limited. The pool is already large in relation to the size of the drainage area.

Remarks: The dam is an old railroad embankment and is about 600 feet long. The upstream slope is riprapped and the downstream slope is vegetated. The principal spillway is a 6-foot square concrete box drop inlet. The vegetated emergency spillway is 44 feet wide.

Ownership and Use: The pond is owned by John Bonderenko and is used for recreation.

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EXISTING SITE FA-5411 (Creek Pond)

Location: On an unnamed tributary to Otis Reservoir at Lee Westfield Road in Otis, Massachusetts.

Otis, Mass. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres	Drainage Area (Sq. Mi.)
1519	55	8	1150	1.80

Potential for Expansion: Significant expansion does not appear practical. Interstate Route 90 (Massachusetts Turnpike) would be affected by raising the pool level.

Remarks: The dam is an earthfill structure about 160 feet long. The upstream slope is vegetated and the downstream slope is vertical stone masonry. The principal spillway, located in the center of the dam, is an 8 foot wide stone masonry weir with provisions for 1 foot of stoplogs. The emergency spillway, located on the left abutment, is a 20-foot wide stone overflow structure.

Ownership and Use: The pond is owned by John Bondarenko and is used for recreation.

****

EXISTING SITE FA-5412 (Big Pond)

Location: On an unnamed tributary to Otis Reservoir, about 300 feet upstream from State Route 23 in Otis, Massachusetts.

Otis, Mass. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1472	330	2	5450	8.51

Potential for Expansion: Limited. Many cabins surround the pond. A large area of shallow water would be created by raising the water level.

Remarks: The dam is a 90-foot long concrete weir structure. The principal spillway, located near the right abutment is a 10-foot long concrete weir with provision for 1 foot of stoplogs.

Ownership and Use: Ownership of the pond was not determined. The pond is used for recreation.

****

EXISTING SITE FA-5413 (Otis Reservoir)

Location: On Fall River at Tolland Road in Otis, Massachusetts.

Otis, Mass. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1421	1023	31	10,250	16.01

Potential for Expansion: Limited. The reservoir area is already large in relation to the size of the drainage area.

Remarks: The dam is formed by the Tolland Road highway embankment. The upstream slope is rock riprapped and the downstream slope is vertical stone masonry. The principal spillway consists of two concrete spillways each 19 feet wide and having a maximum head of 5 feet. A gatehouse is located near the center of the dam.

Ownership and Use: The reservoir is owned by the Massachusetts Department of Environmental Management, Division of Forests and Parks and is used for recreation.

****

EXISTING SITE FA-5414 (Wards Pond)

Location: On an unnamed tributary of the Farmington River at East Otis Road in Tolland, Massachusetts.

Tolland Center, Mass-Conn. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1340	19	18	800	1.26

Potential for Expansion: Topography limits any significant increases in surface area.

Remarks: The dam is an earthfill structure about 375 feet long with vegetated side slopes. The principal spillway near the left abutment is a 14-feet wide combination concrete weir and chute. A gated pond drain is located near the center of the dam.

Ownership and Use: The pond is owned by the Connectucut Valley Girl Scouts and is used for recreation.

****

Existing Site FA-5414
WARDS POND

EXISTING SITE FA-5410
WHITE LILY POND

EXISTING SITE FA-5412
BIG POND

EXISTING SITE FA-5411
CREEK POND

EXISTING SITE FA-5413
OTIS RESERVOIR

EXISTING RESERVOIRS
SUBWATERSHED FA-54
WEST BRANCH

LEGEND

- WATERSHED BOUNDARY
- DRAINAGE AREA ABOVE STRUCTURE
- POTENTIAL SITE SHOWING BENEFICIAL POOL FOR LARGEST STRUCTURE — 5403
- EXISTING POND OR RESERVOIR — 5410

5401 5410 5411 5412 5403 5413 5414

Source—U.S.G.S. Quad Sheets
Becket, Mass.—1958
Otis, Mass.—1958
Tolland Center, Mass.—1958

WEST BRANCH (FA-54)
FARMINGTON STUDY AREA
MASSACHUSETTS
EXISTING AND POTENTIAL RESERVOIR SITES
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

FARMINGTON STUDY AREA
SITE DATA FOR

Subwatershed FA-55, Clam River

The Clam River subwatershed covers about 20,100 acres in Monterey, New Marlborough, Otis, and Sandisfield in Berkshire County.

The major stream in the subwatershed is the Clam River which originates in West Otis and flows southeasterly through Sandisfield to the confluence with the West Branch of the Farmington River.

A Watershed Protection and Flood Prevention Project under Public Law-566 is presently under construction in the Clam River Watershed. When construction is completed in 1977, five dams will provide recreation, fish and wildlife, and flood protection benefits to the area.

Eleven potential reservoir sites and eleven existing reservoirs were studied.

POTENTIAL SITE FA-5501

Location:	On Spectacle Pond Brook about 1000 feet upstream from State Route 23 in Otis, Mass.
	Monterey, Mass. USGS quadrangle
	Latitude: 42°11'46" Longitude: 73°07'37"
Facilities Affected:	None below elevation 1515
Geologic Conditions:	Both abutments are silty sand with gravel, cobbles, and boulders (glacial till). Depth to schist or gneiss bedrock in the foundation is estimated to be from 10 to 15 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.
Engineering Notes:	The left abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE FA-5502

Location: On Spectacle Pond Brook about 2500 feet downstream from State Route 23 just upstream of Nash Road in the Otis State Forest in Otis, Mass.

Otis, Mass. USGS quadrangle

Latitude: 42°11'16" Longitude: 73°07'15"

Facilities Affected:

Facility	Elevation
Underground telephone cable	1460

Geologic Conditions: Both abutments are silty sand and gravel with cobbles and boulders. Bedrock outcrops high on the right abutment. Depth to gneiss bedrock in the foundation is estimated to be from 20 to 25 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: Preliminary designs indicate that a concrete emergency spillway may be required at this site.

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POTENTIAL SITE FA-5503

Location: At the outlet of Upper Spectacle Pond above Webb Road in the Otis State Forest in Sandisfield, Mass.

Otis, Mass. USGS quadrangle

Latitude: 42°10'37" Longitude: 73°07'07"

Facilities Affected: Underground telephone cable - Elevation 1460

Geologic Conditions: Both abutments are silty sand and gravel with cobbles and boulders (glacial till or englacial drift); shallow to gneiss bedrock. Bedrock outcrops in the brook. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location. For data on the existing dam at this location, see existing site FA-5503 (Upper Spectacle Pond).

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POTENTIAL SITE FA-5504

Location: On an unnamed tributary to the Clam River about 2200 feet upstream from Town Hill Road in Sandisfield, Mass.

Monterey, Mass. USGS quadrangle

Latitude: 42°10'03" Longitude: 73°09'13"

Facilities Affected: None below elevation 1500.

Geologic Conditions: Both abutments are silty sand with gravel, cobbles, and boulders (glacial till). Depth to gneiss bedrock in the foundation is estimated to be from 15 to 20 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location. For data on the existing dam at this location, see existing site FA-5504 (Glider Club Pond).

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POTENTIAL SITE FA-5507

Location: On the Clam River about 1300 feet upstream from its confluence with Spectacle Pond Brook in Sandisfield, Mass.

Monterey, Mass. USGS quadrangle

Latitude: 42°09'23" Longitude: 73°07'35"

Facilities Affected: None below elevation 1300.

Geologic Conditions: Both abutments are silty sand with gravel, cobbles, and boulders (glacial till). Depth to bedrock in the foundation is estimated to be from 5 to 10 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: Preliminary designs indicate that a concrete emergency spillway may be required at this site.

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POTENTIAL SITE FA-5508

Location: On the Buck River about 100 feet upstream from Hubbard Road in Sandisfield, Mass.

Monterey, Mass. USGS quadrangle

Latitude: 42°08'54" Longitude: 73°09'05"

Facilities Affected: None below elevation 1560.

Geologic Conditions: Both abutments are silty sand with gravel, cobbles, and boulders (glacial till). Depth to gneiss bedrock in the foundation is estimated to be from 15 to 20 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location. If the site is developed above elevation 1555, an auxiliary dike will be required adjacent to Hubbard Road.

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POTENTIAL SITE FA-5510

Location: On the Buck River about 200 feet upstream from West Street in Sandisfield, Mass.

South Sandisfield, Mass. USGS quadrangle

Latitude: 42°07'15" Longitude: 73°08'23"

Facilities Affected:

Facility	Elevation
West Street	1280
House	1300

Geologic Conditions: Both abutments are silty sand with gravel, cobbles, and boulders (glacial till). Depth to gneiss bedrock in the foundation is estimated to be from 20 to 30 feet. Waterholding capabilities appear to be good. Leakage is expected in the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: Preliminary designs indicate that a concrete emergency spillway may be required at this site.

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POTENTIAL SITE FA-5511

Location: On the North Branch of Silver Brook about 1100 feet upstream from Sullivan Road, at the outlet of Atwater Pond, in Sandisfield, Mass.

South Sandisfield, Mass. USGS quadrangle

Latitude: 42°06'30" Longitude: 73°09'07"

Facilities Affected:

Facility	Elevation
House	1552

Geologic Conditions: Both abutments are silty sand with gravel, cobbles, and boulders (glacial till). Depth to gneiss bedrock in the foundation is estimated to be from 20 to 30 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location. For data on the existing dam at this site, see existing site FA-5511 (Atwater Pond).

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POTENTIAL SITE FA-5512

Location: On the Clam River about 2400 feet upstream from its confluence with the Buck River in Sandisfield, Mass.

Tolland Center, Mass.-Conn. USGS quadrangle

Latitude: 42°06'28" Longitude: 73°06'08"

Facilities Affected: None below elevation 1020.

Geologic Conditions: The left abutment is poorly graded sand and gravel with cobbles and boulders (englacial drift and ice-contact deposits). The right abutment is glacial till; shallow to gneiss bedrock. Gneiss bedrock outcrops at the center line of the dam. Waterholding capabilities appear to be poor. Leakage is expected through the left abutment and possibly the right abutment and foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: Preliminary designs indicate that a concrete emergency spillway may be required at this site.

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POTENTIAL SITE FA-5513

Location: On the South Branch of Silver Brook about 2800 feet upstream from Fox Road in Sandisfield, Mass.

Tolland Center, Mass.-Conn. USGS quadrangle

Latitude: 42°05'06" Longitude: 73°07'18"

Facilities Affected: None below elevation 1360.

Geologic Conditions: Both abutments are silty sand with gravel, cobbles and boulders (glacial till), with terraces of poorly graded sand and gravel (ice-contact deposits and valley fill) at the toe of both abutments. Depth to gneiss bedrock in the foundation is estimated to be from 5 to 10 feet. Waterholding capabilities appear to be good if a cutoff to bedrock in the foundation can be made. Borrow material for dam construction was located near the site.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location. If the site is developed above elevation 1355 an auxiliary dike will be required at the south end of the reservoir.

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POTENTIAL SITE FA-5514

Location: At the outlet of Mirror Lake about 300 feet upstream from West New Boston, New Hartford Road in Sandisfield, Mass.

Tolland Center, Mass.-Conn. USGS quadrangle

Latitude: 42°04'48" Longitude: 73°05'37"

Facilities Affected:

Facility	Elevation
3 cottages	1199

Geologic Conditions: Both abutments are silty sand with gravel, cobbles, and boulders (glacial till). Depth to gneiss bedrock in the foundation is estimated to be from 10 to 15 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location. For data on the existing dam at this location, see existing site FA-5514 (Mirror Lake).

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SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-FARMINGTON RIVER SUBWATERSHED CLAM RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV ** TYPE (MSL)	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-FA-5501 DA= 1.10 SQ MI = 704 AC USGS QUAD-MONTEREY LATITUDE 42-11-46 LONGITUDE 73-07-37																
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.10 IN, PEAK FLOW = 332 CFS																
1492.6	0	0.0		9		0.6	1497.9 E	243	4.1	730	1500.1	110	1503.1	11	10	*****
1495.9	100	1.7	2630	53	4940	3.9	1498.4 E	283	4.8	930	1500.8	113	1503.8	12	11	0.24
1501.1	556	9.5	720	113	3520	9.1	1503.6 E	858	14.6	470	1505.1	126	1508.1	16	18	0.67
1504.9	1011	17.2	470	125	3830	12.8	1507.4 E	1342	22.9	360	1508.6	136	1511.6	20	29	0.88
1508.4	1467	25.0	380	136	4110	16.4	1510.9 E	1824	31.0	310	1511.9	146	1514.9	23	41	1.00
SITE-FA-5502 DA= 1.70 SQ MI = 1088 AC USGS QUAD-OTIS LATITUDE 42-11-16 LONGITUDE 73-07-15																
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.10 IN, PEAK FLOW = 413 CFS																
1465.3	0	0.0		4		6.3	1483.6 T	376	4.1	1480	1486.0	85	1489.0	30	62	*****
1475.9	100	1.1	5870	19	31110	16.9	1475.9 T	114	1.2	5170	1484.3	69	1488.6	30	59	0.27
1478.6	159	1.7	3790	25	24500	19.6	1478.6 T	173	1.9	3490	1485.6	81	1488.9	30	61	0.37
1480.6	219	2.4	2970	34	19140	21.7	1480.6 T	232	2.5	2790	1487.1	95	1490.1	31	68	0.45
1482.5	297	3.3	2470	51	14290	23.5	1482.5 T	311	3.4	2370	1487.1	97	1490.1	31	72	0.55
SITE-FA-5503 DA= 2.20 SQ MI = 1408 AC USGS QUAD-OTIS LATITUDE 42-10-37 LONGITUDE 73-07-07																
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.10 IN, PEAK FLOW = 499 CFS																
1433.6	0	0.0		9		3.5	1452.9 E	733	6.1	520	1455.3	69	1459.5	30	64	*****
1439.6	100	0.8	3790	24	15720	9.7	1439.6 T	118	1.0	3220	1448.6	56	1452.0	22	33	0.29
1449.9	529	4.5	1030	60	9010	19.9	1460.4 E	1274	10.8	430	1462.6	84	1467.3	37	109	0.87
1462.0	1386	11.8	500	82	8400	32.0	1468.5 E	1994	17.0	350	1470.9	105	1474.1	44	159	1.50
1471.1	2244	19.1	450	106	9630	41.0	1471.1 T	2262	19.2	450	1476.0	119	1479.0	49	206	1.86
1472.5	2392	20.4	450	110	9810	42.5	1472.5 T	2409	20.5	450	1477.1	123	1480.1	50	223	1.90

NOTES - (1) COSTS ARE BASED ON 1974 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-FARMINGTON RIVER SUBWATERSHED CLAM RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	TYPE	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-FA-5504 DA= 0.71 SQ MI = 454 AC USGS QUAD-MONTEREY LATITUDE 42-10-03 LONGITUDE 73-09-13																	
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.10 IN, PEAK FLOW = 214 CFS																	
1486.9	0	0.0		2		4.9	1496.1	E	157	4.1	1170	1498.3	57	1501.3	19	19	*****
1494.6	100	2.5	2470	34	7300	12.7	1497.1	E	211	5.6	1170	1499.6	66	1502.6	21	22	0.20
1495.9	145	3.8	2280	42	7900	13.8	1495.9	T	150	4.0	2190	1499.4	64	1503.1	21	24	0.26
1497.5	220	5.8	1910	52	8100	15.5	1497.5	T	225	6.0	1870	1500.0	68	1503.0	21	23	0.32
SITE-FA-5507 DA= 4.07 SQ MI = 2605 AC USGS QUAD-MONTEREY LATITUDE 42-09-23 LONGITUDE 73-07-35																	
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.10 IN, PEAK FLOW = 1010 CFS																	
1217.9	0	0.0		4		17.9	1270.4	T	901	4.1	2410	1282.5	42	1290.0	90	377	*****
1232.1	100	0.5	9960	10	99630	32.2	1232.1	T	133	0.6	7510	1244.8	16	1249.9	50	82	0.34
1252.1	394	1.7	3580	21	67690	52.0	1252.1	T	426	2.0	3310	1264.3	27	1269.6	70	191	0.91
1273.8	981	4.5	1840	33	54140	73.8	1273.8	T	1013	4.6	1780	1284.6	43	1288.8	89	363	1.61
1292.5	1746	8.0	1380	46	52170	92.5	1292.5	T	1778	8.2	1350	1297.3	50	1300.3	100	508	2.28
SITE-FA-5508 DA= 0.73 SQ MI = 467 AC USGS QUAD-MONTEREY LATITUDE 42-08-54 LONGITUDE 73-09-05																	
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.10 IN, PEAK FLOW = 220 CFS																	
1535.5	0	0.0		2		5.5	1552.6	E	162	4.1	1470	1554.9	31	1557.9	28	29	*****
1549.6	100	2.5	3270	14	22770	19.7	1556.1	E	265	6.8	1230	1558.6	43	1561.6	32	42	0.20
1552.5	153	3.9	2340	23	15540	22.5	1557.0	E	296	7.6	1210	1559.3	46	1562.3	32	45	0.27
1554.5	206	5.3	1820	30	12700	24.5	1557.0	E	295	7.6	1270	1559.4	46	1562.4	32	45	0.32
1557.5	309	7.8	1840	39	14410	27.5	1557.5	T	315	8.1	1810	1560.0	48	1563.0	33	47	0.41

NOTES - (1) COSTS ARE BASED ON 1974 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

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SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-FARMINGTON RIVER — SUBWATERSHED CLAM RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	STORAGE IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	TYPE	STORAGE AT CREST AC FT	STORAGE AT CREST IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-FA-5510 DA= 5.31 SQ MI = 3398 AC USGS QUAD-SOUTH SANDISFIELD LATITUDE 42-07-15 LONGITUDE 73-08-23																	
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.10 IN, PEAK FLOW = 1346 CFS																	
1279.6	0	0.0		7		17.6	1319.8	T	1175	4.1	1770	1332.1	68	1339.6	78	341	*****
1288.8	100	0.4	12340	15	84390	26.7	1288.8	T	142	0.5	8660	1303.4	32	1309.0	47	89	0.36
1310.8	715	2.5	2240	42	37970	48.8	1310.8	T	757	2.7	2110	1323.6	57	1328.8	67	227	1.46
1333.1	1944	6.8	1280	70	35570	71.1	1333.1	T	1987	7.0	1250	1345.3	86	1351.0	89	500	2.70
1352.5	3549	12.5	860	96	32030	90.5	1352.5	T	3591	12.7	850	1357.1	102	1360.1	98	665	3.72
SITE-FA-5511 DA= 0.92 SQ MI = 589 AC USGS QUAD-SOUTH SANDISFIELD LATITUDE 42-06-30 LONGITUDE 73-09-07																	
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.10 IN, PEAK FLOW = 278 CFS																	
1544.3	0	0.0		6		1.2	1552.3	E	204	4.1	1030	1554.6	41	1557.6	15	13	*****
1549.5	100	2.0	2830	32	8930	6.5	1554.0	E	271	5.5	1040	1556.5	44	1559.5	16	20	0.21
1552.8	217	4.4	1680	38	9490	9.8	1557.3	E	414	8.3	880	1559.8	49	1562.8	20	34	0.36
1558.3	452	9.2	1100	47	10610	15.2	1562.8	E	689	14.0	720	1565.0	59	1568.1	25	64	0.55
1562.5	663	13.5	860	54	10500	19.5	1565.0	E	812	16.6	700	1567.3	64	1570.3	27	83	0.67
SITE-FA-5512 DA= 13.75 SQ MI = 8800 AC USGS QUAD-TOLLAND CENTER LATITUDE 42-06-28 LONGITUDE 73-06-08																	
SITE RATING (3) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 2416 CFS																	
946.5	0	0.0		11		26.5	1005.9	T	3043	4.1	1190	1013.5	114	1020.0	100	903	*****
953.5	100	0.1	16640	17	97240	33.5	953.5	T	210	0.3	7930	966.5	32	973.5	54	188	0.43
975.1	737	1.0	3460	43	58720	55.1	975.1	T	847	1.2	3010	987.9	66	995.0	75	428	2.01
995.6	2010	2.7	2370	82	57950	75.6	995.6	T	2120	2.9	2250	1010.6	109	1018.0	98	857	3.97
1012.5	3638	5.0	1190	112	38580	92.5	1012.5	T	3748	5.1	1150	1016.5	120	1019.9	100	902	5.74

NOTES - (1) COSTS ARE BASED ON 1974 S.C.S. DESIGN CRITERIA AND COST DATA.
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(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

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SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-FARMINGTON RIVER SUBWATERSHED CLAM RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV ** TYPE (MSL)	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-FA-5513 DA= 0.79 SQ MI = 506 AC USGS QUAD-TOLLAND CENTER LATITUDE 42-05-06 LONGITUDE 73-07-18																
SITE RATING (1) STREAM WATER QUALITY (8) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 236 CFS																
1298.1	0	0.0		1		8.1	1323.4 E	245	5.8	950	1325.8	21	1329.6	40	30	*****
1314.5	100	2.4	2920	12	24240	24.5	1327.0 E	319	7.6	910	1329.4	23	1332.8	43	38	0.21
1324.4	259	6.1	1430	20	18690	34.4	1332.9 E	463	11.0	800	1335.3	28	1338.6	49	55	0.37
1337.3	577	13.7	940	30	18170	47.3	1343.8 E	798	18.9	680	1346.1	39	1349.8	60	100	0.58
1346.5	894	21.2	740	39	16930	56.5	1351.0 E	1088	25.7	610	1353.4	46	1356.8	67	138	0.69
1350.4	1053	25.0	690	43	16820	60.4	1354.9 E	1263	30.0	580	1356.9	48	1359.9	70	160	0.72
SITE-FA-5514 DA= 0.65 SQ MI = 416 AC USGS QUAD-TOLLAND CENTER LATITUDE 42-04-48 LONGITUDE 73-05-37																
SITE RATING (1) STREAM WATER QUALITY (8) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 194 CFS																
1162.8	0	0.0		3		2.8	1177.8 E	186	5.4	950	1180.1	26	1184.1	24	10	*****
1173.6	100	2.9	2000	16	12220	13.6	1180.1 E	242	7.0	830	1182.5	28	1186.0	26	12	0.18
1179.8	228	6.6	1060	25	9560	19.7	1184.3 E	356	10.3	680	1186.6	31	1190.0	30	18	0.32
1188.5	483	13.8	690	33	10230	28.5	1193.0 E	645	18.6	520	1195.1	39	1198.5	39	38	0.48
1195.6	739	21.2	710	39	13330	35.5	1195.6 T	744	21.5	700	1199.3	43	1202.3	42	50	0.57
1197.5	813	23.5	730	41	14610	37.5	1197.5 T	818	23.6	730	1200.0	43	1203.0	43	53	0.58

NOTES - (1) COSTS ARE BASED ON 1974 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

EXISTING SITE FA-5503 (Upper Spectacle Pond)

Location: On Spectacle Pond Brook at Webb Road in Sandisfield, Massachusetts.

Otis, Mass. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1434	13	20	1300	2.03

Potential for Expansion: Raising the existing pond level by 20 feet would nearly triple the surface area. No facilities other than Webb Road would be affected.

Remarks: The dam is part of the Webb Road highway embankment. It is about 175 feet long with a 20-foot top width. The principal spillway, located in the center of the dam, is a 40-foot long concrete weir having a maximum head of 3 feet. A gated outlet is located to the right of the weir.

Ownership and Use: The site is owned by the Massachusetts Department of Environmental Management, Division of Forests and Parks and is used for recreation.

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EXISTING SITE FA-5504 (Glider Pond)

Location: On an unnamed tributary to the Clam River about 2200 feet upstream from Town Hill Road in Sandisfield, Massachusetts.

Monterey, Mass. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1490	5	18	400	0.63

Potential for Expansion: Please refer to Site Data and Design Summary for Potential Site FA-5504 for details.

Remarks: The dam is an earthfill structure with a corrugated metal principal spillway and a vegetated emergency spillway.

Ownership and Use: The pond is owned by the Glider Club and is used for recreation.

****

EXISTING SITE FA-5511 (Atwater Pond)

Location: On the North Branch of Silver Brook about 1100 feet upstream from Sullivan Road in Sandisfield, Massachusetts.

South Sandisfield, Mass.-Conn. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1547	33	8	600	0.94

Potential for Expansion: Please refer to Site Data and Design Summary Table for Potential Site FA-5511 for details.

Remarks: The dam is an earthfill structure about 250 feet long. The upstream slope is rock riprapped and the downstream slope is covered with stone masonry. The principal spillway is a 13-foot wide concrete chute with a weir having a maximum head of 3 feet. The vegetated emergency spillway, located on the left abutment, is 15 feet wide with a maximum head of 2 feet.

Ownership and Use: The pond is owned by Louis Friedman and is used for recreation.

****

EXISTING SITE FA-5514 (Mirror Lake)

Location: On an unnamed tributary to the Buck River about 300 feet upstream from New Boston-New Hartford Road in Sandisfield, Massachusetts.

Tolland, Mass.-Conn. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1179	20	15	400	0.63

Potential for Expansion: Please refer to Site Data and Design Summary Tables for Potential Site FA-5514

Remarks: The dam is an earthfill structure about 200 feet long. The upstream slope is covered with stone masonry and the downstream slope is vegetated. The spillway system consists of a 15-foot long concrete weir on the left abutment and a 15-foot wide concrete chute structure on the right abutment.

Ownership and Use: The lake is owned by Robert K. Green and is used for recreation and as a game preserve.

EXISTING SITE FA-5520 (Royal Pond)

Location: On an unnamed tributary to the Clam River about 2100 feet upstream from State Route 23 in Otis, Massachusetts.

Monterey, Mass. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1454	10	7	200	0.31

Potential for Expansion: The small drainage area limits expansion potential.

Remarks: The dam is an earthfill structure about 225 feet long. The spillway, located on the right abutment, is a 10-foot long stone weir.

Ownership and Use: The pond is owned by S. Javits and C. Lashoones and is used for recreation.

****

EXISTING SITE FA-5522 (Lower Spectacle Pond)

Location: On Spectacle Pond Brook at Spring Road in Sandisfield, Massachusetts.

Otis, Mass. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1405	64	8	2100	3.28

Potential for Expansion: Raising the existing pond level by 15 feet would nearly double the surface area. A long dike would be needed at the western end of the enlarged pond.

Remarks: The dam is part of the Cold Springs Road highway embankment and is about 75 feet long. The upstream slope is a vertical stone masonry wall and the downstream slope is wooded. The principal spillway is a 6-foot diameter corrugated metal pipe.

Ownership and Use: The pond is owned by Rowley Brothers and is used for recreation.

****

EXISTING SITE FA-5523 (Abbey Lake)

Location: On the Buck River about 4800 feet upstream from West Street in Sandisfield, Massachusetts.

Monterey, Mass. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1464	37	37	1100	1.72

Potential for Expansion: Raising the existing lake level by 30 feet would nearly double the surface area. No facilities would be affected.

Remarks: The dam is an earthfill structure about 210 feet long. Both slopes are vegetated. The principal spillway is a 36-inch diameter reinforced concrete pipe with a rectangular reinforced concrete riser. A vegetated emergency spillway is located on the left abutment.

Ownership and Use: The lake is owned by the Commonwealth of Massachusetts, Water Resources Commission and is used for recreation and flood protection. The dam was built as part of the Clam River PL-566 Watershed Project.

****

EXISTING SITE FA-5524 (West Lake)

Location: On an unnamed tributary to the Buck River about 3400 feet upstream from West Street in Sandisfield, Massachusetts.

Monterey, Mass. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1566	60	25	950	1.48

Potential for Expansion: Raising the present lake level by 20 feet would nearly double the surface area. West Street would be affected.

Remarks: The dam is an earthfill structure about 930 feet long having a 12-foot top width and 3 to 1 side slopes. The principal spillway is a 36-inch diameter reinforced concrete pipe with a rectangular reinforced concrete riser. A 100-foot wide vegetated emergency spillway is located on the right abutment.

Ownership and Use: The site is owned by the Commonwealth of Massachusetts, Water Resources Commission and is used for recreation and flood protection. The dam was built as part of the Clam River PL-566 Watershed Project.

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EXISTING SITE FA-5526 (North Silver Lake)

Location: On the North Branch of Silver Brook about 1700 feet upstream from Fox Road in Sandisfield, Massachusetts.

Tolland Center, Mass.-Conn. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1303.5	17	71	2400	3.75

Potential for Expansion: Toppgraphy limits any significant increase in surface area.

Remarks: The dam is an earthfill structure about 1560 feet long having a 22-foot top width. The upstream slope is 3 to 1 and the downstream slope is 2 to 1. The principal spillway is a 48-inch diameter reinforced concrete pipe with a rectangular reinforced concrete riser. A 100-foot wide vegetated emergency spillway is located on the right abutment.

Ownership and Use: The site is owned by the Commonwealth of Massachusetts, Water Resources Commission and is used for fish and wildlife and flood protection. The dam was built as part of the Clam River PL-566 Watershed Project.

****

EXISTING SITE FA-5527 (South Silver Lake)

Location: On a tributary of Silver Brook about 2000 feet upstream from Veits Road in Sandisfield, Massachusetts.

Tolland Center, Mass.-Conn. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1168	15	29	700	1.09

Potential for Expansion: Topography limits any significant increase in surface area.

Remarks: The dam is an earthfill structure about 170 feet long having a 12-foot top width and 3 to 1 side slopes. The principal spillway is a 30-inch diameter reinforced concrete pipe with a rectangular reinforced concrete riser. A 32-foot wide emergency spillway is located on the right abutment.

Ownership and Use: The site is owned by the Commonwealth of Massachusetts, Water Resources Commission and is used for flood protection. The dam was built as part of the Clam River PL-566 Watershed Project.

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EXISTING SITE FA-5528 (Clam Lake)
(under construction in 1975)

Location: On the Clam River about 2000 feet upstream from Montville-Beech Plain Road in Sandisfield, Massachusetts.

Otis, Mass. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1143	47	88	6900	10.78

Potential for Expansion: Limited. Modifying the present dam would be very expensive.

Remarks: The dam is an earthfill structure about 1000 feet long. Upstream and downstream slopes are riprapped. The principal spillway is a 60-inch diameter reinforced concrete pipe with a rectangular concrete riser. The excavated emergency spillway, located on the left abutment, is 385 feet wide and has a concrete control section.

Ownership and Use: The site is owned by the Commonwealth of Massachusetts, Water Resources Commission and is used for recreation and flood prevention.

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EXISTING SITE FA-5504
GLIDER POND

EXISTING SITE FA-5514
MIRROR LAKE

EXISTING SITE FA-5511
ATWATER POND

EXISTING SITE FA-5520
ROYAL POND

EXISTING RESERVOIRS
SUBWATERSHED FA-55
CLAM RIVER

EXISTING SITE FA-5522
LOWER SPECTACLE POND

EXISTING SITE FA-5526
NORTH SILVER LAKE

EXISTING SITE FA-5524
WEST LAKE

EXISTING SITE FA-5527
SOUTH SILVER LAKE

EXISTING SITE FA-5523
ABBEY LAKE

EXISTING RESERVOIRS
SUBWATERSHED FA-55
CLAM RIVER

LEGEND

WATERSHED BOUNDARY

POTENTIAL SITE SHOWING BENEFICIAL POOL FOR LARGEST STRUCTURE

5527

EXISTING POND OR RESERVOIR

5503

ORAINAGE AREA ABOVE STRUCTURE

5501
5503
5522
5502
5520
5504
5507
5508
5523
5528
(UNDER CONSTRUCTION)
5524
5512
5526
5527
5511
5514
5510
5513

CLAM RIVER (FA-55)
FARMINGTON STUDY AREA
MASSACHUSETTS
EXISTING AND POTENTIAL RESERVOIR SITES
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Source — U.S.G.S. Quad Sheets
Manterey, Mass. — 1958
Otis, Mass. — 1958
South Sandisfield, Mass. — 1969
Tolland Center, Mass. — 1969

FARMINGTON STUDY AREA
SITE DATA FOR

Subwatershed FA-56, West Branch

This subwatershed covers about 12,500 acres in Sandisfield in Berkshire County, and Granville and Tolland in Hampden County.

This portion of the West Branch of the Farmington River watershed includes the drainage area from the confluence with the Clam River in Sandisfield to the Connecticut state line.

Ten potential reservoir sites and three existing reservoirs were studied.

POTENTIAL SITE FA-5601

Location: On an unnamed tributary to the West Branch of the Farmington River about 200 feet upstream from East Otis Road in Tolland, Mass.

Tolland Center, Mass.-Conn. USGS quadrangle

Latitude: 42°05'39" Longitude: 73°03'37"

Facilities Affected:

Facility	Elevation
East Otis Road and utilities	1335
Twining Pond	1338

Geologic Conditions: The left abutment is poorly graded sand and gravel with cobbles and boulders (englacial drift). The right abutment is silty sand with gravel, cobbles and boulders (glacial till). Depth to gneiss bedrock in the foundation is estimated to be from 10 to 15 feet. Waterholding capabilities appear to be good. There is possibility of leakage through the left abutment. Borrow material for dam construction was located near the site.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE FA-5602

Location: On Richardson Brook about 2700 feet downstream from State Route 57 in Tolland, Mass.

Tolland Center, Mass.-Conn. USGS quadrangle

Latitude: 42°04'58" Longitude: 73°02'32"

Facilities Affected:

Facility	Elevation
Route 57 and utilities	1327

Geologic Conditions: The left abutment is poorly graded sand and gravel with boulders (englacial drift). The right abutment is poorly graded sand and gravel with cobbles and boulders (ice-contact deposits). Depth to gneiss bedrock in the foundation is estimated to be from 20 to 30 feet. Waterholding capabilities appear to be poor. Leakage is expected through both of the abutments and possibly the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location. If the site is developed above elevation 1335, an auxiliary dike will be required at the west end of the reservoir. There is a breached earthfill dam located at the site.

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POTENTIAL SITE FA-5603

Location: On Thorp Brook about 800 feet upstream from Beech Hill Road in Sandisfield, Mass.

Tolland Center, Mass.-Conn. USGS quadrangle

Latitude: 42°03'58" Longitude: 73°06'00"

Facilities Affected:

Facility	Elevation
West New Boston-New Hartford Road and utilities	1415

Geologic Conditions: Both abutments are silty sand with gravel, cobbles and boulders (glacial till) with possibly some poorly graded sand and gravel with boulders (englacial drift) in the foundation. Depth to gneiss bedrock in the foundation is estimated to be from 5 to 10 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location.

Public Ownership: Above elevation 1410 feet the northwest part of the reservoir would be in the Sandisfield State Forest.

POTENTIAL SITE FA-5604

Location: On Thorp Brook about 2300 feet downstream from Beech Hill Road in Sandisfield, Mass.

Tolland Center, Mass.-Conn. USGS quadrangle

Latitude: 42°03'55" Longitude: 73°05'25"

Facilities Affected:

Facility	Elevation
West New Boston-New Hartford Road and utilities	1328
Beech Hill Road and utilities	1330

Geologic Conditions: Both abutments are silty sand with gravel, cobbles, and boulders (glacial till). Depth to gneiss bedrock in the foundation is estimated to be from 10 to 15 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE FA-5606

Location: On Slocum Brook about 150 feet upstream from Rivers Road in Tolland, Mass.

Tolland Center, Mass.-Conn. USGS quadrangle

Latitude: 42°03'06" Longitude: 73°00'00"

Facilities Affected:

Facility	Elevation
House and house trailer	1305

Geologic Conditions: Both abutments are silty sand with gravel, cobbles, and boulders (glacial till). Depth to schist bedrock in the foundation is estimated to be from 15 to 20 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE FA-5607

Location: On Slocum Brook about 2400 feet downstream from Rivers Road in Tolland, Mass.

Tolland Center, Mass.-Conn. USGS quadrangle

Latitude: 42°02'52" Longitude: 73°00'21"

Facilities Affected:

Facility	Elevation
Hartland Road	1241

Geologic Conditions: Both abutments are silty sand with gravel, cobbles and boulders (glacial till). Depth to schist bedrock in the foundation is estimated to be from 10 to 15 feet. Water-holding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE FA-5608

Location: On an unnamed brook about 600 feet downstream from the outlet of Lake Marguerite and upstream of Beech Hill Road in Sandisfield, Mass.

Tolland Center, Mass.-Conn. USGS quadrangle

Latitude: 42°02'37" Longitude: 73°04'48"

Facilities Affected:

Facility	Elevation
Cottage	1182

Geologic Conditions: Both abutments are silty sand with gravel, cobbles and boulders (glacial till). Depth to gneiss bedrock in the foundation is estimated to be from 15 to 20 feet. Water-holding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE FA-5609

Location: On an unnamed tributary to the Farmington River about 3500 feet upstream from the West Branch of the Farmington River and Route 8 in Sandisfield, Mass.

Tolland Center, Mass.-Conn. USGS quadrangle

Latitude: 42°02'32" Longitude: 73°03'56"

Facilities Affected: None below elevation 965.

Geologic Conditions: Both abutments are silty sand with gravel, cobbles and boulders (glacial till). Depth to gneiss bedrock in the foundation is estimated to be from 15 to 20 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location. If the site is developed above elevation 1135, an auxiliary dike will be required at the southeast end of the reservoir.

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POTENTIAL SITE FA-5611

Location: On Taylor Brook about 50 feet downstream from Colbrook River Road in Tolland, Mass.

Tolland Center, Mass.-Conn. USGS quadrangle

Latitude: 42°02'38" Longitude: 73°02'02"

Facilities Affected:

Facility	Elevation
Harvey Mountain Road and utilities	895
Burt Hill Road and utilities	899
Colebrook Road and utilities	910
House and barn	940
House and farm buildings	945

Geologic Conditions: Both abutments are silty sand with gravel, cobbles and boulders (glacial till) with poorly graded sand and gravel and silty sand (englacial drift) in the foundation. Depth to gneiss bedrock in the foundation is estimated to be from 20 to 25 feet. Waterholding capabilities appear to be good. There is possibility of leakage through the foundation.

POTENTIAL SITE FA-5611 (continued)

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location. If the site is developed above elevation 895, an auxiliary dike will be required at the south end of the reservoir.

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POTENTIAL SITE FA-5612

Location: On Slocum Brook about 150 feet downstream from Peterson Road in Tolland, Mass.

West Granville, Mass. USGS quadrangle

Latitude: 42°02'40" Longitude: 72°59'39"

Facilities Affected:

Facility	Elevation
Peterson Road	1241
Cabin	1260

Geologic Conditions: Both abutments are silty sand with gravel, cobbles and boulders (glacial till) with gneiss bedrock high on the right abutment. Depth to gneiss bedrock in the foundation is estimated to be from 5 to 10 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location.

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SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-FARMINGTON RIVER SUBWATERSHED WEST BROOK

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	STORAGE IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV ** (MSL)	TYPE	STORAGE AT CREST AC FT	STORAGE AT CREST IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-5601 DA= 0.73 SQ MI = 467 AC USGS QUAD-TOLLAND CENTER LATITUDE 42-05-39 LONGITUDE 73-03-37																	
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 218 CFS																	
1306.4	0	0.0		2		6.4	1328.0	E	194	5.0	1480	1330.1	19	1333.1	33	46	*****
1321.9	100	2.5	3980	12	32010	21.9	1332.4	E	287	7.3	1380	1334.6	34	1337.6	38	64	0.20
1327.4	179	4.6	2460	16	26730	27.4	1333.9	E	329	8.5	1340	1336.3	39	1339.3	39	71	0.29
1331.4	258	6.6	1910	23	21410	31.4	1335.9	E	398	10.2	1240	1338.3	46	1341.3	41	81	0.36
1336.5	415	10.7	1620	40	16860	36.5	1336.5	T	421	10.8	1600	1339.6	50	1342.6	43	88	0.47
1337.5	457	11.7	1580	43	16680	37.5	1337.5	T	462	11.8	1560	1340.0	51	1343.0	43	90	0.49
SITE-5602 DA= 0.73 SQ MI = 467 AC USGS QUAD-TOLLAND CENTER LATITUDE 42-04-58 LONGITUDE 73-02-32																	
SITE RATING (3) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 218 CFS																	
1296.4	0	0.0		3		4.4	1310.1	E	162	4.1	840	1312.5	26	1315.5	24	11	*****
1307.5	100	2.5	2120	18	11590	15.5	1314.0	E	259	6.6	820	1316.5	31	1319.5	27	19	0.20
1313.6	246	6.3	1160	28	10250	21.7	1318.1	E	389	10.0	730	1320.6	37	1323.6	32	30	0.35
1322.3	537	13.7	790	41	10300	30.2	1324.8	E	650	16.7	650	1327.1	52	1330.1	38	55	0.54
1328.5	828	21.2	660	54	10100	36.5	1331.0	E	978	25.1	560	1333.1	65	1336.1	44	86	0.64
1331.0	973	25.0	630	60	10230	39.0	1333.5	E	1135	29.2	540	1335.4	71	1338.4	46	102	0.67
SITE-5603 DA= 0.69 SQ MI = 442 AC USGS QUAD-TOLLAND CENTER LATITUDE 42-03-58 LONGITUDE 73-06-00																	
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 206 CFS																	
1380.6	0	0.0		1		10.7	1402.3	E	153	4.1	1930	1404.6	23	1407.9	38	55	*****
1399.3	100	2.7	3920	13	30060	29.2	1407.8	E	282	7.6	1390	1410.1	33	1413.1	43	77	0.20
1405.5	217	5.9	2060	24	18270	35.5	1410.0	E	350	9.5	1280	1412.4	39	1415.4	45	87	0.32
1412.9	451	12.3	1270	40	14170	42.9	1415.4	E	564	15.2	1010	1417.6	53	1420.6	51	116	0.48
1417.5	665	18.1	1200	52	15210	47.5	1417.5	T	670	18.2	1190	1420.0	59	1423.0	53	131	0.57

NOTES - (1) COSTS ARE BASED ON 1974 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-FARMINGTON RIVER SUBWATERSHED WEST BROOK

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV + TYPE (MSL)	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-5604 DA= 1.25 SQ MI = 800 AC USGS QUAD-TOLLAND CENTER LATITUDE 42-03-55 LONGITUDE 73-05-25																
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 373 CFS																
1290.5	0	0.0		3		10.5	1304.6 E	351	5.3	750	1307.1	42	1310.4	30	36	*****
1297.6	100	1.5	3440	26	13270	17.6	1308.1 E	490	7.3	700	1310.5	46	1314.4	34	47	0.25
1311.1	622	9.3	770	46	10350	31.2	1317.6 E	954	14.2	500	1320.1	55	1323.3	43	81	0.75
1321.4	1144	17.2	550	57	11060	41.4	1325.9 E	1418	21.2	440	1328.3	64	1331.3	51	122	1.00
1329.9	1667	25.0	470	66	11810	49.9	1334.4 E	1987	29.7	390	1336.8	74	1340.0	60	177	1.14
SITE-5606 DA= 0.61 SQ MI = 390 AC USGS QUAD-TOLLAND CENTER LATITUDE 42-03-06 LONGITUDE 73-00-00																
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 182 CFS																
1292.3	0	0.0		4		2.3	1302.4 E	135	4.1	970	1304.6	46	1307.6	18	7	*****
1301.1	100	3.0	1970	23	8440	11.2	1303.6 E	182	5.6	1090	1306.0	54	1309.0	19	9	0.18
1303.6	174	5.4	1450	39	6500	13.7	1306.1 E	297	9.1	850	1308.4	69	1311.4	21	13	0.27
1305.3	249	7.6	1150	49	5820	15.2	1307.8 E	396	12.2	720	1309.5	76	1312.6	23	14	0.33
1307.5	371	11.3	1110	63	6520	17.5	1307.5 T	376	11.6	1090	1310.0	79	1313.0	23	15	0.41
SITE-5607 DA= 1.66 SQ MI = 1062 AC USGS QUAD-TOLLAND CENTER LATITUDE 42-02-52 LONGITUDE 73-00-21																
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 495 CFS																
1178.3	0	0.0		3		8.3	1219.6 E	606	6.8	980	1222.1	39	1227.1	57	149	*****
1196.6	100	1.1	6430	9	70380	26.5	1196.6 T	113	1.2	5670	1209.0	23	1215.4	45	84	0.26
1214.8	438	4.9	2240	29	33530	44.8	1214.8 T	451	5.1	2170	1224.6	43	1229.1	59	164	0.69
1231.3	1114	12.6	1050	55	21290	61.3	1239.8 E	1657	18.7	700	1241.8	84	1246.4	76	320	1.17
1242.5	1893	21.4	830	88	17730	72.5	1242.5 T	1906	21.5	820	1247.1	120	1250.1	80	367	1.45

NOTES - (1) COSTS ARE BASED ON 1974 S.C.S. DESIGN CRITERIA AND COST DATA.
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(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-FARMINGTON SUBWATERSHED WEST BROOK

BENEFICIAL POOL						EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-5608 DA= 1.56 SQ MI = 998 AC USGS QUAD-TOLLAND CENTER LATITUDE 42-02-37 LONGITUDE 73-04-48																
SITE RATING (1) STREAM WATER QUALITY (A) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 457 CFS																
1171.6	0	0.0		11		1.6	1182.3 E	483	5.8	500	1184.6	76	1188.9	19	11	*****
1175.8	100	1.2	2580	38	6870	5.8	1182.3 E	481	5.8	540	1184.6	76	1187.6	18	9	0.26
1181.6	430	5.1	740	69	4620	11.7	1186.1 E	779	9.3	410	1188.6	86	1191.6	22	16	0.67
1190.1	1090	13.1	440	89	5410	20.1	1194.6 E	1527	18.4	320	1196.6	104	1200.6	31	41	1.12
1196.9	1750	21.0	420	104	7010	26.9	1196.9 T	1762	21.2	410	1199.9	111	1202.9	33	50	1.36
1197.5	1816	21.7	430	106	7400	27.5	1197.5 T	1828	22.0	430	1200.0	111	1203.0	33	50	1.37
SITE-5609 DA= 2.42 SQ MI = 1549 AC USGS QUAD-TOLLAND CENTER LATITUDE 42-02-32 LONGITUDE 73-03-56																
SITE RATING (1) STREAM WATER QUALITY (A) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 645 CFS																
1096.6	0	0.0		7		4.6	1127.8 E	863	6.6	450	1130.3	49	1135.1	43	59	*****
1103.9	100	0.8	4410	18	25120	11.8	1103.9 T	119	0.8	3690	1116.3	32	1123.6	32	26	0.30
1122.4	621	4.8	1280	39	20440	30.4	1122.4 T	640	5.0	1240	1132.9	57	1138.0	46	73	0.99
1141.0	1663	12.8	660	80	13750	49.0	1149.5 E	2444	18.9	450	1151.9	105	1157.5	66	243	1.72
1156.9	3227	25.0	560	116	15640	64.9	1163.4 E	4044	31.2	450	1165.4	130	1170.6	79	467	2.21
SITE-5611 DA= 8.17 SQ MI = 5229 AC USGS QUAD-TOLLAND CENTER LATITUDE 42-02-38 LONGITUDE 73-02-02																
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 2436 CFS																
894.5	0	0.0		27		4.5	921.5 E	3166	7.3	490	924.0	198	931.9	42	446	*****
897.0	100	0.2	12470	42	29480	7.1	897.0 T	165	0.4	7540	910.0	136	915.8	26	123	0.40
914.5	1899	4.4	1580	157	19120	24.6	914.5 T	1964	4.5	1530	928.0	213	937.5	47	604	3.17
932.9	5497	12.6	760	229	18270	42.9	945.4 E	8665	19.9	480	947.5	276	956.3	66	1385	5.74
947.1	9094	20.9	650	276	21460	57.1	957.6 E	12276	28.2	480	959.5	327	967.8	78	2043	7.11
953.5	10893	25.0	590	300	21450	63.5	962.0 E	13682	31.4	470	964.4	349	970.8	81	2238	7.46

NOTES - (1) COSTS ARE BASED ON 1974 S.C.S. DESIGN CRITERIA AND COST DATA.
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(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

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SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-FARMINGTON RIVER SUBWATERSHED WEST BROOK

BENEFICIAL POOL						EMERGENCY SPILLWAY			DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELLV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV +TYPE (MSL)	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-5612 DA= 0.54 SQ MI = 346 AC USGS QUAD- WEST GRANVILLE LATITUDE 42-02-40 LONGITUDE 72-59-39																
SITE RATING (1) STREAM WATER QUALITY (8) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 161 CFS																
1241.1	0	0.0		4		1.2	1248.1 E	120	4.1	1210	1250.4	35	1253.4	13	12	*****
1247.6	100	3.5	2080	27	7740	7.6	1250.1 E	182	6.3	1140	1252.6	39	1255.6	16	14	0.18
1250.3	182	6.3	1370	35	7030	10.3	1252.8 E	280	9.7	890	1255.0	42	1258.0	18	19	0.26
1254.6	346	12.0	920	42	7620	14.6	1257.1 E	459	15.8	690	1259.0	48	1262.0	22	31	0.37
1257.5	474	16.5	930	46	9560	17.5	1257.5 T	478	16.6	920	1260.0	50	1263.0	23	34	0.43

NOTES - (1) COSTS ARE BASED ON 1974 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

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EXISTING SITE FA-5620 (Cranberry Pond)

Location: On Cranberry Pond Brook at Beetle Road in Tolland, Massachusetts.

Tolland Center, Mass.-Conn. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1308	76	25	600	0.94

Potential for Expansion: Limited. The pool is already large in relation to the size of the drainage area.

Remarks: The dam is part of the Beetle Road highway embankment and is about 415 feet long. The upstream slope is rip-rapped and the downstream slope is vegetated. The principal spillway is a 24-inch diameter corrugated metal pipe with a 48-inch diameter corrugated metal pipe riser. The 75-foot wide emergency spillway is located on the right abutment.

Ownership and Use: The pond is owned by Chamonix Chalet Properties and is used for recreation.

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EXISTING SITE FA-5621 (Victory Lake)

Location: On an unnamed tributary to Slocum Brook about 700 feet upstream from Colebrook River Road in Tolland, Massachusetts.

Tolland Center, Mass.-Conn. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
995	14	15	300	0.47

Potential for Expansion: Limited. Extensive recreation facilities surround the lake. Topography limits significant increase in surface area.

Remarks: The dam is an earthfill structure about 265 feet long. The upstream slope is vegetated and the downstream slope is wooded. The principal spillway, located on the left abutment, is a 12-foot x 7 foot concrete box drop structure. A 3.5-foot long weir with provision for a 6-inch stop-log is located in the center of the box structure.

Ownership and Use: The lake is owned by Camp Spruce Hill and is used for recreation.

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EXISTING SITE FA-5622 (Trout Pond)

Location: On Moody Brook about 700 feet south of Route 57 in Tolland, Massachusetts.

Tolland Center, Mass.-Conn. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area Sq. Mi.
1343	1.8	10	50	0.08

Potential for Expansion: The small drainage area limits expansion potential.

Remarks: The dam is an earthfill structure. Both slopes are covered with brushy vegetation. The spillway is a cut channel at the right edge of the dam.

Ownership and Use: The pond is owned by Francis Deming and is used for recreation.

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EXISTING SITE FA-5620
CRANBERRY POND

EXISTING SITE FA-5621
VICTORY LAKE

EXISTING SITE FA-5620
CRANBERRY POND

EXISTING SITE FA-5621
VICTORY LAKE

EXISTING RESERVOIRS
SUBWATERSHED FA-56
WEST BRANCH

WEST BRANCH (FA-56)
FARMINGTON STUDY AREA
MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

LEGEND

- WATERSHED BOUNDARY
- DRAINAGE AREA ABOVE STRUCTURE
- POTENTIAL SITE SHOWING BENEFICIAL POOL FOR LARGEST STRUCTURE — 5609
- EXISTING POND OR RESERVOIR — 5622

5601 5602 5603 5604 5620 5621 5622 5606 5607 5612 5608 5609 5611

T O L L A N D

Source — U.S.G.S. Quad Sheets
Tolland Center, Mass. — 1958
West Granville, Mass. — 1958

LOCATION MAP

1 1/2 0 1 Mile

FARMINGTON STUDY AREA
SITE DATA FOR

Subwatershed FA-57, Sandy Brook

The Sandy Brook subwatershed covers about 7,500 acres in New Marlborough and Sandisfield in Berkshire County.

The main stream in the subwatershed is Sandy Brook which originates in New Marlborough and flows southeasterly through Sandisfield to the Connecticut state line.

Six potential reservoir sites and two existing reservoirs were studied.

POTENTIAL SITE FA-5701

Location:	On Sandy Brook about 2200 feet upstream from South Sandisfield Road in Sandisfield, Mass. South Sandisfield, Mass. USGS quadrangle Latitude: 42°04'58" Longitude: 73°10'08"
Facilities Affected:	None below elevation 1515.
Geologic Conditions:	Both abutments are silty sand with gravel, cobbles and boulders (glacial till). Depth to gneiss bedrock in the foundation is estimated to be from 10 to 15 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.
Engineering Notes:	The right abutment is recommended for the excavated emergency spillway location.
Public Ownership:	Above elevation 1480, the reservoir would be in the Sandisfield State Forest.

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POTENTIAL SITE FA-5702

Location: On Sandy Brook about 1500 feet upstream from Norfolk Road in Sandisfield, Mass.

South Sandisfield, Mass. USGS quadrangle

Latitude: 42°04'14" Longitude: 73°09'45"

Facilities Affected:

Facility	Elvation
Shed	1429
House	1431
House	1432
South Sandisfield Road and utilities	1435
Dodd Road	1436
Lodge	1440
Cottage	1450
Cemetery	1450

Geologic Conditions: The left abutment is poorly graded sand and gravel with cobbles and boulders (englacial drift). The right abutment is silty sand with gravel, cobbles and boulders(glacial till). Depth to gneiss bedrock in the foundation is estimated to be from 10 to 15 feet. Waterholding capabilities appear to be good if a cutoff can be made in the foundation and left abutment. Borrow material for dam construction was located near the site.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

Public Ownership: The east branch of the reservoir above elevation 1430 would be in the Sandisfield State Forest.

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POTENTIAL SITE FA-5703

Location: On Riiska Brook about 7500 feet upstream from Mew Marlborough Road in Sandisfield, Mass.

South Sandisfield, Mass. USGS quadrangle

Latitude: 42°03'46" Longitude: 73°07'56"

Facilities Affected: None below elevation 1485.

Geologic Conditions: Both abutments are silty sand with gravel, cobbles and boulders (glacial till). Depth to gneiss bedrock in the foundation is estimated to be from 15 to 20 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

Public Ownership: From about 400 feet upstream from the proposed center line of the dam to about 2400 feet upstream, the majority of the reservoir would be in the Sandisfield State Forest.

POTENTIAL SITE FA-5704

Location: On an unnamed brook about 50 feet upstream from Norfolk Road in Sandisfield, Mass.

South Sandisfield, Mass. USGS quadrangle

Latitude: 42°03'23" Longitude: 73°09'22"

Facilities Affected: None below elevation 1350.

Geologic Conditions: Both abutments are silty sand with gravel, cobbles and boulders (glacial till). Depth to gneiss bedrock in the foundation is estimated to be from 10 to 15 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE FA-5705

Location: On Sandy Brook about 3300 feet upstream from New Marlborough Road in Sandisfield, Mass.

South Sandisfield, Mass. USGS quadrangle

Latitude: 42°03'04" Longitude: 73°08'42"

Facilities Affected:

Facility	Elevation
New Marlborough Road and utilities	1308
Norfolk Road and utilities	1312
House	1320
House	1340

Geologic Conditions: Both abutments are silty sand with gravel, cobbles and boulders (glacial till), with poorly graded sand and gravel (englacial outwash) at the toe of both abutments. Depth to gneiss bedrock in the foundation is estimated to be from 10 to 15 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: Preliminary designs indicate that a concrete emergency spillway may be required at this site.

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POTENTIAL SITE FA-5706

Location: On an unnamed brook about 1200 feet upstream from Roberts Road in Sandisfield, Mass.

Tolland Center, Mass.-Conn. USGS quadrangle

Latitude: 42°03'05" Longitude: 73°06'44"

Facilities Affected: None below elevation 1440.

Geologic Conditions: Both abutments are silty sand with gravel, cobbles and boulders (glacial till). Depth to gneiss bedrock in the foundation is estimated to be from 15 to 20 feet. Water-holding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location. If the site is developed above elevation 1435, an auxiliary dike will be required at the east end of the reservoir.

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SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-FARMINGTON RIVER — SUBWATERSHED STILL RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	STORAGE IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	TYPE	STORAGE AT CREST AC FT	STORAGE AT CREST IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-FA-5701 DA= 1.66 SQ MI = 1062 AC — USGS QUAD-SOUTH SANDISFIELD — LATITUDE 42-04-58 LONGITUDE 73-10-08																	
SITE RATING (1) STREAM WATER QUALITY (B) — 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 495 CFS																	
1443.6	0	0.0		4		5.6	1475.6	E	626	7.1	870	1478.0	40	1481.9	44	122	*****
1455.1	100	1.1	5180	14	37100	17.2	1455.1	T	113	1.2	4570	1466.1	26	1469.8	32	57	0.26
1471.0	452	5.1	1840	32	26340	33.0	1471.0	T	465	5.3	1780	1480.0	42	1483.0	45	129	0.70
1487.9	1157	13.1	1110	52	24760	49.9	1498.4	E	1777	20.1	720	1500.6	67	1505.5	67	348	1.19
1504.9	2213	25.0	820	75	24370	66.9	1511.4	E	2746	31.0	660	1513.6	88	1517.4	79	529	1.51
SITE-FA-5702 DA= 4.29 SQ MI = 2746 AC — USGS QUAD-SOUTH SANDISFIELD — LATITUDE 42-04-14 LONGITUDE 73-09-45																	
SITE RATING (1) STREAM WATER QUALITY (B) — 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 1256 CFS																	
1426.0	0	0.0		29		2.0	1439.5	E	1688	7.3	280	1441.3	225	1446.4	22	13	*****
1428.1	100	0.4	5140	61	8430	4.1	1438.6	E	1517	6.6	340	1441.1	224	1445.1	21	12	0.34
1434.6	790	3.5	920	149	4910	10.7	1443.1	E	2520	11.0	290	1444.6	247	1449.6	26	19	1.44
1441.8	2171	9.5	440	229	4180	17.7	1448.3	E	3825	16.7	250	1450.0	279	1454.8	31	30	2.62
1447.4	3552	15.5	470	263	6280	23.4	1447.4	T	3587	15.7	460	1450.0	279	1453.0	29	26	3.35
1447.5	3567	15.6	470	264	6360	23.5	1447.5	T	3601	15.7	470	1450.0	279	1453.0	29	26	3.35
SITE-FA-5703 DA= 1.30 SQ MI = 832 AC — USGS QUAD-SOUTH SANDISFIELD — LATITUDE 42-03-46 LONGITUDE 73-07-56																	
SITE RATING (1) STREAM WATER QUALITY (B) — 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 388 CFS																	
1452.0	0	0.0		9		2.0	1463.4	E	396	5.6	450	1465.6	69	1469.1	19	10	*****
1457.0	100	1.4	2410	31	7800	7.0	1465.5	E	531	7.6	450	1467.8	78	1471.8	22	13	0.25
1463.1	372	5.4	840	58	5370	13.1	1467.6	E	688	9.8	450	1470.1	88	1473.1	23	15	0.57
1470.5	917	13.2	470	90	4760	20.5	1473.0	E	1162	16.7	370	1475.4	106	1478.4	28	26	0.94
1476.0	1461	21.1	370	108	5040	26.0	1478.5	E	1753	25.2	310	1480.9	124	1484.1	34	45	1.13
1478.4	1733	25.0	340	116	5110	28.4	1480.9	E	2045	29.5	290	1483.1	130	1486.3	36	54	1.19

NOTES - (1) COSTS ARE BASED ON 1974 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

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SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-FARMINGTON RIVER — SUBWATERSHED STILL RIVER

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	TYPE	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-FA-5704 DA= 1.70 SQ MI = 1088 AC USGS QUAD-SOUTH SANDISFIELD LATITUDE 42-03-23 LONGITUDE 73-09-22																	
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 507 CFS																	
1321.9	0	0.0		11		1.9	1335.6	E	634	7.0	550	1338.1	75	1343.1	23	51	*****
1326.3	100	1.1	4070	35	11630	6.3	1336.8	E	712	7.8	570	1339.1	78	1343.6	24	53	0.27
1332.5	411	4.5	1310	61	8740	12.5	1341.0	E	1038	11.5	520	1343.1	94	1347.8	28	77	0.67
1341.1	1033	11.3	670	85	8100	21.1	1345.6	E	1474	16.2	470	1348.1	117	1351.5	31	105	1.14
1347.4	1654	18.2	700	114	10150	27.4	1347.4	T	1563	18.4	690	1350.0	126	1353.0	33	118	1.41
1347.5	1667	18.4	720	114	10440	27.5	1347.5	T	1681	18.5	710	1350.0	126	1353.0	33	118	1.42
SITE-FA-5705 DA= 7.66 SQ MI = 4902 AC USGS QUAD-SOUTH SANDISFIELD LATITUDE 42-03-04 LONGITUDE 73-08-42																	
SITE RATING (2) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 1837 CFS																	
1309.1	0	0.0		13		9.1	1340.5	E	3469	8.5	320	1342.0	213	1352.5	52	76	*****
1312.8	100	0.2	13050	31	42390	12.8	1312.8	T	161	0.4	8090	1326.6	123	1337.8	38	33	0.39
1325.6	1019	2.5	1920	116	16910	25.7	1325.6	T	1080	2.5	1810	1339.0	194	1346.6	47	56	2.09
1337.6	2857	7.0	740	188	11250	37.7	1337.6	T	2918	7.1	720	1348.9	259	1356.3	56	91	3.94
1346.3	4695	11.5	550	242	10640	46.3	1346.3	T	4756	11.6	540	1350.0	266	1358.9	59	102	5.14
SITE-FA-5706 DA= 0.66 SQ MI = 422 AC USGS QUAD-TOLLAND CENTER LATITUDE 42-03-05 LONGITUDE 73-06-44																	
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 197 CFS																	
1420.1	0	0.0		1		10.1	1427.6	E	146	4.1	1450	1430.0	45	1433.0	23	20	*****
1426.5	100	2.8	2860	29	9710	16.5	1429.0	E	192	5.5	1490	1431.4	47	1434.4	24	23	0.20
1429.5	209	5.9	1630	43	7960	19.5	1432.0	E	328	9.3	1040	1434.3	51	1437.3	27	31	0.31
1434.1	426	12.1	980	51	8200	24.1	1436.6	E	563	16.0	740	1438.8	58	1441.8	32	47	0.45
1437.5	608	17.2	980	56	10690	27.5	1437.5	T	614	17.4	980	1440.0	60	1443.0	33	52	0.54

NOTES - (1) COSTS ARE BASED ON 1974 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

EXISTING SITE FA-5710 (York Lake)

Location: On Sandy Brook at East Hill Road in New Marlborough, Massachusetts.

South Sandisfield, Mass.-Conn. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1544	39	17	800	1.25

Potential for Expansion: Raising the pool level about 15 feet would double the surface area. No facilities would be affected.

Remarks: The dam is part of the East Hill Road highway embankment and is about 530 feet long. The upstream slope is vegetated and has rock riprap below the normal water level. The principal spillway is a concrete ogee weir about 35 feet long.

Ownership and Use: The site is owned by the Commonwealth of Massachusetts, Department of Environmental Management, Division of Forests and Parks and is used for recreation.

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EXISTING SITE FA-5711 (Pelton Pond)

Location: On North Brook about 1800 feet downstream from New Hartford Road in Sandisfield, Mass.

Tolland Center, Mass.-Conn. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam(Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1460	20	12	150	0.23

Potential for Expansion: Limited. The pool is already large in relation to the size of the drainage area.

Remarks: The dam is an earthfill structure about 250 feet long. The spillway is a concrete weir about 15 feet wide and 2 feet deep.

Ownership and Use: The pond is owned by H. Pelton and is used for recreation.

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Existing Site FA-5710
YORK LAKE

Existing Site FA-5711
PELTON POND

LEGEND

WATERSHED BOUNDARY

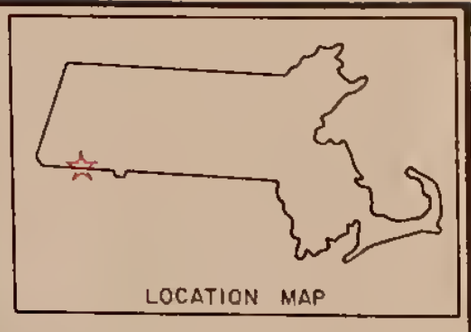
DRAINAGE AREA ABOVE STRUCTURE

POTENTIAL SITE SHOWING BENEFICIAL POOL FOR LARGEST STRUCTURE

5702

EXISTING POND OR RESERVOIR

5710



5710

5701

5702

5704

5705

5703

5711

5706

Source — U.S.G.S. Quad Sheets
South Sondisfield, Mass. — 1969
Tolland Center, Mass. — 1969

1 1/2 0 1 Mile

SANDY BROOK (FA-57)

FARMINGTON STUDY AREA

MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES

UNITED STATES DEPARTMENT OF AGRICULTURE

SOIL CONSERVATION SERVICE

FARMINGTON STUDY AREA
SITE DATA FOR

Subwatershed FA-58, Upper East Branch

This subwatershed covers about 17,200 acres in Granville and Tolland in Hampden County.

The major streams in the subwatershed are Hubbard River and Valley Brook. Hubbard River originates in Tolland and flows southeasterly through Granville. Valley Brook originates in Granville and flows southerly. The two streams join in Connecticut to form the East Branch of the Farmington River.

Eight potential reservoir sites and two existing reservoirs were studied.

POTENTIAL SITE FA-5801

Location:	On Babcock Brook about 3700 feet upstream from its confluence with Pond Brook in Tolland, Mass. West Granville, Mass. USGS quadrangle Latitude: 42°06'22" Longitude: 72°59'32"
Facilities Affected:	None below elevation 1307.
Geologic Conditions:	Both abutments are silty sand with gravel, cobbles and boulders (glacial till). Depth to gneiss bedrock in the foundation is estimated to be from 10 to 15 feet. Water-holding capabilities appear to be good. Borrow material for dam construction was located near the site.
Engineering Notes:	The left abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE FA-5802

Location: On Pond Brook about 2000 feet downstream from School House Road in Tolland, Mass.

West Granville, Mass. USGS quadrangle

Latitude: 42°06'01" Longitude: 72°59'58"

Facilities Affected: None below elevation 1330.

Geologic Conditions: Both abutments are silty sand with gravel, cobbles and boulders (glacial till). Depth to gneiss bedrock in the foundation is estimated to be from 10 to 15 feet. Water-holding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location. For additional data on the existing dam at this site, see Existing FA-5802 (Trout Pond). If the site is developed above elevation 1325, an auxiliary dike will be required at the east end of the reservoir.

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POTENTIAL SITE FA-5803

Location: On Babcock Brook about 5000 feet upstream from its confluence with Hall Pond Brook in Tolland, Mass.

West Granville, Mass. USGS quadrangle

Latitude: 42°05'14" Longitude: 72°59'15"

Facilities Affected: None below elevation 1240.

Geologic Conditions: Both abutments are silty sand with gravel, cobbles and boulders (glacial till). Depth to gneiss bedrock in the foundation is estimated to be from 10 to 15 feet. Water-holding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: Preliminary designs indicate that a concrete emergency spillway may be required at this site. If the site is developed above elevation 1185, an auxiliary dike will be required at the east end of the reservoir.

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POTENTIAL SITE FA-5804

Location: On Pond Brook about 5000 feet upstream from State Route 57 in Granville, Mass.

West Granville, Mass. USGS quadrangle

Latitude: 42°05'24" Longitude: 72°56'40"

Facilities Affected:

Facility	Elevation
Beech Hill Road and utilities	1263

Geologic Conditions: Both abutments are silty sand with gravel, cobbles and boulders (glacial till). Depth to gneiss bedrock in the foundation is estimated to be from 10 to 15 feet. Water-holding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE FA-5805

Location: On Valley Brook about 2200 feet upstream from State Route 57 in Granville, Mass.

West Granville, Mass. USGS quadrangle

Latitude: 42°05'10" Longitude: 72°54'38"

Facilities Affected:

Facility	Elevation
Gas line	945
North Lane #1	970

Geologic Conditions: Both abutments are schist bedrock with pegmatite lenses and irregular terraces of silty sand, gravel, cobbles and boulders (glacial till) in the foundation area and lower part of the left abutment. Depth to gneiss bedrock in the foundation is estimated to be from 5 to 10 feet. Water-holding capabilities appear to be good. A limited amount of borrow material for dam construction was located near the site.

Engineering Notes: The right abutment is recommended for the excavated emergency spillway location.

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POTENTIAL SITE FA-5806

Location: On the Hubbard River about 1000 feet upstream from State Route 57 in Tolland, Mass.

West Granville, Mass. USGS quadrangle

Latitude: 42°04'50" Longitude: 72°58'23"

Facilities Affected: None below elevation 1195.

Geologic Conditions: Both abutments are silty sand with gravel, cobbles and boulders (glacial till). Depth to gneiss bedrock in the foundation is estimated to be from 10 to 15 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site.

Engineering Notes: The excavated emergency spillway should be constructed on the abutment that would have the least rock excavation.

****

POTENTIAL SITE FA-5807

Location: On Pond Brook about 2800 feet upstream from Hartland Hollow Road in Granville, Mass.

West Granville, Mass. USGS quadrangle

Latitude: 42°03'01" Longitude: 72°56'28"

Facilities Affected: None below elevation 950

Geologic Conditions: Both abutments are silty sand with gravel, cobbles and boulders (englacial drift or glacial till). There may be some lenses of poorly graded sand or gravel in the terrace-like feature on the lower part of the left abutment. Depth to gneiss bedrock in the foundation is estimated to be from 10 to 15 feet. Waterholding capabilities appear to be good. Borrow material for dam construction was located near the site. There have been recent landslides on the steep valley walls of both abutments.

Engineering Notes: The right abutment is recommended for the emergency spillway. Preliminary designs indicate that a concrete emergency spillway may be required at this site.

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POTENTIAL SITE FA-5808

Location: On Valley Brook about 8800 feet upstream from its confluence with the East Branch of the Farmington River in Granville, Mass.

West Granville, Mass. USGS quadrangle

Latitude: 42°02'49" Longitude: 72°54'55"

Facilities Affected: None below elevation 780.

Geologic Conditions: The upper part of the abutments is silty sand with lenses of poorly graded sand and gravel with cobbles and boulders (englacial drift). At the lower part of the abutments there are large terraces of poorly graded sand and gravel with cobbles and boulders (ice-contact deposits). Depth to gneiss bedrock in the foundation is estimated to be from 15 to 20 feet. Waterholding capabilities appear to be poor. Leakage is expected through both abutments and the foundation. Pervious borrow material for dam construction was located near the site; impervious material was not located.

Engineering Notes: The left abutment is recommended for the excavated emergency spillway location.

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SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-FARMINGTON RIVER SUBWATERSHED UPPER EAST BROOK

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-FA-5801 DA= 1.06 SQ MI = 678 AC USGS QUAD-WEST GRANVILLE LATITUDE 42-06-22 LONGITUDE 72-59-32																
SITE RATING (1) STREAM WATER QUALITY (8) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 316 CFS																
1263.5	0	0.0		3		4.5	1286.9 E	280	5.0	1320	1289.1	28	1292.4	33	69	*****
1276.9	100	1.7	4330	12	36760	17.9	1289.4 E	347	6.1	1250	1291.8	33	1294.9	36	81	0.23
1286.3	257	4.5	2050	24	22360	27.2	1292.8 E	454	8.0	1160	1295.1	41	1298.1	39	101	0.42
1296.0	572	10.1	1240	43	16680	37.0	1300.5 E	793	14.0	890	1302.6	57	1305.6	47	157	0.67
1302.5	897	15.8	970	56	15410	43.5	1305.0 E	1052	18.6	830	1307.3	66	1310.3	51	206	0.83
SITE-FA-5802 DA= 3.36 SQ MI = 2150 AC USGS QUAD-WEST GRANVILLE LATITUDE 42-06-01 LONGITUDE 72-59-58																
SITE RATING (1) STREAM WATER QUALITY (8) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 546 CFS																
1291.8	0	0.0		11		1.7	1304.1 E	576	3.2	550	1306.5	82	1310.4	20	29	*****
1296.0	100	0.6	3550	36	9830	6.0	1304.5 E	609	3.4	580	1307.0	83	1310.0	20	28	0.28
1303.6	521	2.9	970	72	7010	13.6	1310.1 E	1073	6.0	470	1312.4	102	1316.6	27	55	0.82
1313.1	1363	7.6	500	104	6540	23.1	1317.6 E	1884	10.5	360	1319.9	127	1323.6	34	100	1.41
1320.4	2206	12.3	380	129	6530	30.4	1322.9 E	2558	14.2	330	1325.3	147	1328.3	38	138	1.72
1323.5	2627	14.7	370	140	6870	33.5	1326.0 E	3004	16.7	320	1328.5	158	1331.9	42	176	1.80
SITE-FA-5803 DA= 6.40 SQ MI = 4096 AC USGS QUAD-WEST GRANVILLE LATITUDE 42-05-14 LONGITUDE 72-59-15																
SITE RATING (1) STREAM WATER QUALITY (8) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 1535 CFS																
1146.5	0	0.0		14		8.5	1176.6 T	1417	4.1	1210	1187.4	101	1197.3	59	272	*****
1151.6	100	0.3	9390	24	39470	13.7	1151.6 T	151	0.4	6210	1166.6	56	1171.5	33	71	0.37
1178.6	1506	4.4	1270	80	23950	40.5	1178.6 T	1557	4.6	1230	1191.3	110	1197.6	60	277	2.50
1204.4	4317	12.6	950	138	29890	66.4	1204.4 T	4368	12.8	940	1217.3	174	1225.8	88	984	4.51
1229.0	8533	25.0	670	206	27690	91.0	1229.0 T	8584	25.2	660	1235.8	221	1239.9	102	1624	5.84

NOTES - (1) COSTS ARE BASED ON 1974 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-FARMINGTON RIVER SUBWATERSHED UPPER EAST BROOK

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV (MSL)	TYPE	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-FA-5804 DA= 0.53 SQ MI = 339 AC USGS QUAD-WEST GRANVILLE LATITUDE 42-05-24 LONGITUDE 72-56-40																	
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 158 CFS																	
1240.4	0	0.0		2		3.4	1253.5	E	117	4.1	1800	1255.9	21	1258.9	22	28	*****
1252.6	100	3.5	3060	16	19520	15.7	1257.1	E	193	6.8	1590	1259.6	28	1262.6	26	41	0.18
1255.8	157	5.5	2140	21	15920	18.7	1258.3	E	219	7.8	1530	1260.6	30	1263.6	27	44	0.24
1260.3	270	9.6	1580	29	14540	23.2	1262.8	E	357	12.6	1190	1264.9	42	1267.9	31	64	0.33
1262.5	343	12.1	1370	36	13230	25.5	1265.0	E	444	15.7	1060	1266.9	48	1269.9	33	75	0.37
SITE-FA-5805 DA= 1.98 SQ MI = 1267 AC USGS QUAD-WEST GRANVILLE LATITUDE 42-05-10 LONGITUDE 72-54-38																	
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 590 CFS																	
921.4	0	0.0		3		11.3	952.8	E	688	6.5	780	955.1	47	961.0	51	133	*****
933.8	100	0.8	6850	15	46560	23.7	933.8	T	116	1.1	5920	946.6	36	954.0	44	91	0.28
949.5	523	5.0	1480	41	18710	39.5	962.0	E	1142	10.8	680	964.4	56	968.8	59	190	0.83
966.4	1370	13.0	900	57	21540	56.4	976.9	E	2034	19.2	600	979.3	69	985.0	75	355	1.41
979.9	2217	21.0	730	70	23300	69.9	988.4	E	2861	27.0	570	990.5	81	996.0	86	506	1.73
985.5	2640	25.0	650	75	22690	75.6	992.0	E	3168	30.0	540	994.5	86	998.1	88	538	1.81
SITE-FA-5806 DA= 9.70 SQ MI = 6208 AC USGS QUAD-WEST GRANVILLE LATITUDE 42-04-50 LONGITUDE 72-58-23																	
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 2172 CFS																	
1122.3	0	0.0		13		14.2	1156.1	E	3836	7.3	260	1157.6	245	1168.5	61	227	*****
1127.4	100	0.2	14420	28	51230	19.4	1127.4	T	178	0.3	8120	1141.1	119	1149.1	41	80	0.41
1149.0	2239	4.3	970	188	11600	41.0	1149.0	T	2316	4.5	940	1162.4	276	1172.6	65	273	3.75
1166.4	6517	12.6	350	301	7480	58.4	1176.9	E	10123	19.6	220	1178.4	382	1186.9	79	473	6.82
1183.9	12933	25.0	240	440	7050	75.9	1190.4	E	16047	31.0	190	1192.3	538	1199.1	91	709	8.86

NOTES - (1) COSTS ARE BASED ON 1974 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

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SUMMARY DATA FOR POTENTIAL UPSTREAM RESERVOIR SITES

STUDY AREA-FARMINGTON RIVER — SUBWATERSHED UPPER EAST BROOK

BENEFICIAL POOL							EMERGENCY SPILLWAY				DESIGN HIGH WATER		DAM			SAFE YIELD AT 95 PERCENT CHANCE
ELEV (MSL)	STORAGE AC FT	IN	COST PER AC FT ($)	AREA (AC)	COST/ SURF AC ($)	DEPTH AT DAM (FT)	CREST ELEV +TYPE (MSL)	STORAGE AT CREST AC FT	IN	COST PER AC FT ($)	ELEV (MSL)	AREA (AC)	TOP ELEV (MSL)	HGT FT	FILL VOL (1000 CY)	(MGD)
SITE-FA-5807 DA= 4.52 SQ MI = 2893 AC USGS QUAD-WEST GRANVILLE LATITUDE 42-03-03 LONGITUDE 72-56-28																
SITE RATING (1) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 1348 CFS																
874.0	0	0.0		3		24.0	920.3 T	1000	4.1	2060	932.5	54	941.9	92	326	*****
889.8	100	0.4	11660	11	106720	39.8	889.8 T	136	0.6	8560	902.8	28	908.5	59	92	0.35
906.8	478	2.0	4770	31	74280	56.8	906.8 T	514	2.0	4440	921.5	42	928.9	79	211	1.08
926.4	1234	5.1	2350	46	63160	76.4	926.4 T	1270	5.3	2290	939.5	68	946.9	97	379	1.92
940.0	1991	8.3	1160	69	33580	90.0	940.0 T	2027	8.3	1140	946.1	84	949.9	100	413	2.58
942.5	2179	9.0	1150	75	33270	92.5	942.5 T	2215	9.2	1130	947.0	86	950.0	100	414	2.70
SITE-FA-5808 DA= 5.62 SQ MI = 3597 AC USGS QUAD-WEST GRANVILLE LATITUDE 42-02-49 LONGITUDE 72-54-55																
SITE RATING (3) STREAM WATER QUALITY (B) 100-YR PRIN SPWY DESIGN STORM RUNOFF = 8.00 IN, PEAK FLOW = 1616 CFS																
691.5	0	0.0		6		16.5	741.4 E	2071	6.8	930	743.8	102	751.3	76	710	*****
702.7	100	0.3	12750	13	100890	27.7	702.7 T	145	0.5	8800	715.5	34	721.0	46	169	0.36
730.5	1139	3.8	2450	68	41280	55.5	730.5 T	1184	4.0	2360	743.3	100	750.0	75	677	2.01
752.4	3218	10.7	1500	120	40420	77.4	752.4 T	3263	10.8	1480	765.9	141	774.9	100	1445	3.65
772.5	5950	19.9	890	154	34490	97.5	772.5 T	5995	20.0	880	777.0	166	780.0	105	1647	4.82

NOTES - (1) COSTS ARE BASED ON 1974 S.C.S. DESIGN CRITERIA AND COST DATA.
(2) EMERGENCY SPILLWAY STORAGE AND COSTS ARE BASED ON TOTAL STORAGE, INCLUDING BENEFICIAL POOL.
(3) EMERGENCY SPILLWAY TYPE CODE- C=CONCRETE CHUTE, D=CONCRETE DROP, E=EXCAVATED, T= TWO SPILLWAYS, N= NONE
(4) TABULAR DATA ARE BASED ON PRELIMINARY INFORMATION. FIGURES SHOWN ARE PRIMARILY FOR COMPARISON PURPOSES.
(5) ELEVATIONS ARE SHOWN TO THE NEAREST 0.1 FOOT TO SHOW VARIATION BETWEEN DEVELOPMENTS ONLY, AND ARE NOT TO BE CONSIDERED ACCURATE TO THAT DEGREE.

** DO NOT USE FOR FINAL SITE SELECTION OR LAND ACQUISITION. **

EXISTING SITE FA-5802 (Trout Pond)

Location: On Pond Brook about 2000 feet downstream from School House Road in Tolland, Massachusetts.

West Granville, Mass.-Conn. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1292	39	10	2150	3.36

Potential for Expansion: Please refer to Site Data and Design Summary Table for Potential Site FA-5802 for details.

Remarks: The dam is a rock and earthfill structure about 100 feet long. The principal spillway consists of two timber broad-crested weirs, each 15 feet long and having a maximum head of 2 feet. An excavated emergency spillway is located on the right abutment.

Ownership and Use: The pond is owned by the Tonix Club and is used for recreation.

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EXISTING SITE FA-5810 (Noyes Pond)

Location: On Pond Brook about 150 feet upstream from Clubhouse Road in Tolland, Massachusetts.

Tolland Center, Mass.-Conn. USGS quadrangle

Surface Elevation	Surface Area (Acres)	Height of Dam (Ft.)	Drainage Area (Acres)	Drainage Area (Sq. Mi.)
1424	174	6	900	1.41

Potential for Expansion: Limited. The pool is already large in relation to the size of the drainage area.

Remarks: The dam is an earthfill structure about 195 feet long. The upstream slope is stone masonry and the downstream slope is vegetated. The principal spillway, located on the right abutment, is a 2-foot long concrete weir having provisions for 6 feet of stoplogs. The emergency spillway, located to the right of the principal spillway, is a 14-foot wide concrete weir and chute.

Ownership and Use: The pond is owned by the Tonix Club and is used for recreation.

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Existing Site FA-5810
NOYES POND

Existing Site FA-5810
NOYES POND

LOCATION MAP

LEGEND

WATERSHED BOUNDARY

DRAINAGE AREA ABOVE STRUCTURE

POTENTIAL SITE SHOWING BENEFICIAL POOL FOR LARGEST STRUCTURE

5801

EXISTING POND OR RESERVOIR

5810

N

5801

5810

5802

5803

5806

5804

5807

5805

5808

Noyes Pond

Trout Pond

Hall Pond

Parsons Pond

Tow Hill

Tolland Center

West Granville

Prospect Hill

GRANVILLE STATE FOREST

UPPER EAST BRANCH (FA-58)
FARMINGTON STUDY AREA
MASSACHUSETTS

EXISTING AND POTENTIAL RESERVOIR SITES
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

Source—USGS Quad Sheets
Tolland Center, Mass.—1958
West Granville, Mass—1955

MUNICIPAL INDEX OF RESERVOIR SITE INFORMATION

Town	Site No.	Narrative Information Page	Design Summary Page
Becket	FA-5303	13	16
	5311	18	
	5314	20	
	5401	21	23
Granville	FA-5201	10	12
	5804	65	69
	5805	65	69
	5807	66	70
	5808	67	70
New Marlborough	FA-5710	61	
Otis	FA-5306	14	16
	5307	14	16
	5308	15	17
	5309	15	17
	5310	18	
	5312	19	
	5313	19	
	5403	22	23
	5410	24	
	5411	24	
	5412	25	
	5413	25	
	5501	27	33
	5502	28	33
	5520	38	
Sandisfield	FA-5503	28,39	33
	5504	29,37	34
	5507	29	34
	5508	30	34
	5510	30	35
	5511	31,37	35
	5512	31	35
	5513	32	36
	5514	32,38	36
	5522	39	
	5523	40	
	5524	40	
	5526	41	
	5527	41	
	5528	42	
	5603	44	49
	5604	45	50
	5608	46	51

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